

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

BETTER FRUIT

VOLUME VI

JANUARY, 1912

NUMBER 7

OUR BIG APPLE SHOW ANNUAL

ILLUSTRATING AND DESCRIBING ALL THE LARGE APPLE SHOWS HELD
THROUGHOUT THE UNITED STATES



ONE OF THE BIG APPLES OF THE NORTHWEST

BETTER FRUIT PUBLISHING COMPANY, PUBLISHERS, HOOD RIVER, OREGON

Subscription \$1.00 per Year in the United States and Canada; Foreign, Including Postage, \$1.50

Single Copy 10 Cents

Dangerous Fruit Pests are Unknown
in the famous

Bitter Root Valley

on Montana's Pacific Slope
Where the Wormless Apples Grow

Smudging Is Unnecessary

There has not been a killing frost on the bench lands in the growing season in the history of the Valley. There are no dust storms.

Pure water and sunshine 300 days in the year make ideal health conditions.

Net profits annually range from \$2,000 to \$5,000

on a matured apple orchard of only ten acres.

Undeveloped land in this remarkable fruit district can still be bought for less money than is asked in other valleys less perfectly adapted by nature for successful fruit growing. Values now range from \$250 to \$350 per acre.

Developed tracts of ten acres, with contract to cultivate and care for same to five-year maturity, cost only \$5,000 if purchased now. Easy terms of payment for both developed and undeveloped land.

Detailed information upon request.

Bitter Root Valley Irrigation Co.

First National Bank Building, CHICAGO

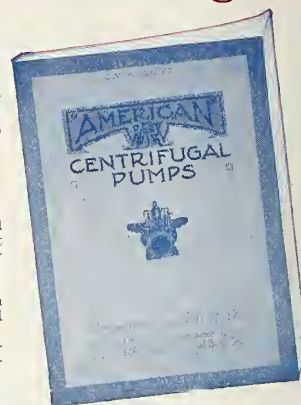
More American Centrifugals are used for Irrigation Pumping than any other

The reason is the American Centrifugal is the highest development of the most modern type of pump and it is made by pump designers of 43 years' experience, and not merely pump builders.

American Centrifugals are made in over fifty regular styles in any size and equipped with any power.

Catalogue 117, the most complete centrifugal pump catalogue ever issued describes them.

Write for it.

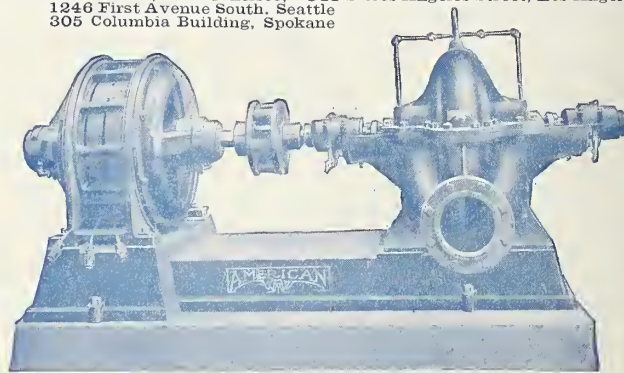


THE AMERICAN WELL WORKS

General Office and Works: Aurora, Illinois, U. S. A.
Chicago Office: First National Bank Building

PACIFIC COAST SALES AGENCIES:

70 Fremont Street, San Francisco, 341 S. Los Angeles Street, Los Angeles
1246 First Avenue South, Seattle
305 Columbia Building, Spokane



DON'T TAKE CHANCES with Cheap Inferior Spray



Your Spray Material is your crop insurance. You'd just as well not spray at all as to spray wrong.

Niagara Lime-Sulphur Spray is the one spray that is used by experienced orchardists who know the value of using an absolutely dependable brand. It has proven year after year to be the best by every test.

It is 19.65 total Lime and 31.44 total Sulphur—almost double the strength and efficiency of other brands tested in comparison. Niagara may cost a little more—it is worth a great deal more.

Perfect results year after year are the irrefutable evidence of its worth. Growers all over the Northwest are learning that it pays in dollars and cents to use Niagara.

Winter Spraying Should Have Your Immediate Attention. Spray now for San Jose Scale and Apple Canker in Young Orchards

Our "Triangle" and "Niagara" Arsenate of Leads do the work perfectly when mixed with Niagara Lime-Sulphur. They are both as NEUTRAL as any so-called neutral leads.

We have issued a valuable booklet, "Successful Spraying." It contains information that every orchardist ought to have. Will be sent to you upon receipt of your name and address.

Hood River Spray Manufacturing Co., P.O. Box R54, Hood River, Oregon

The Northwestern Fruit Exchange

calls attention, on January 1st, to the following minimum and maximum prices obtained for the Cashmere Fruit Growers' Union, and Rogue River Fruit Growers' Association, respectively, for the crop season of 1911. These prices were, in ALL CASES, f.o.b. shipping point. They cover all sizes, from 3-tier to 5-tier inclusive, in each grade. They cover all sales made for the associations mentioned. Some changes will be observed as between the prices shown below and those shown in December issue of "Better Fruit":

VARIETY	EXTRA FANCY	FANCY	CHOICE
Arkansas Black	\$1.75 to \$2.10	\$1.60 to \$1.75	\$1.00 to \$1.35
Black Ben Davis.....	1.35 to 1.50	1.15 to 1.25	1.25
Black Twig	1.40 to 1.60	1.15 to 1.30	1.25
Champion	1.50	1.35	1.00
Chicago	1.50	1.35	1.00
Commerce	1.60	1.50	1.00 to 1.25
Gano	1.25		
Grimes Golden	1.40 to 1.60	1.25	
Hoover Red	1.35 to 1.50		
Jonathan	1.40 to 1.75	1.15 to 1.50	.90 to 1.35
Rome Beauty	1.50 to 1.75	1.35 to 1.50	1.00
Spitzenberg	2.00, \$2.10, \$2.25	1.75 and 2.00	1.25 to 1.50
Stayman Winesap	1.50 to \$1.75	1.25 to 1.50	1.00 to 1.50
Winesap	2.00	1.75	1.25
White Winter Pearmain..	1.60		
Winter Banana	2.25		1.25
Yellow Newtown	2.10		1.15 to 1.50

The Exchange, in response to many inquiries on the subject, advises the following average time between date of shipment and date of remittance in full to its members, from Portland:

For the Cashmere Fruit Growers' Union.....18½ days

For the Rogue River Fruit and Produce Association..19½ days

For its entire membership, season of 1911.....20½ days

These figures represent the entire shipments for the season, made and delivered.

Northwestern Fruit Exchange

418-423 Spalding Building, PORTLAND, OREGON

Reginald H. Parsons, President

W. F. Gwin, General Manager

Chas. A. Malboeuf, Secretary

IF YOU WANT TO MARKET
YOUR

FRUIT

RIGHT

ALWAYS SHIP TO

W. B. GLAFKE CO.

WHOLESALE FRUITS
AND PRODUCE

108-110 Front Street
PORTLAND, OREGON

W. H. DRYER

W. W. BOLLAM

Dryer, Bollam & Co.

GENERAL
COMMISSION MERCHANTS

128 FRONT STREET

PHONES: MAIN 2348
A 2348

PORTLAND, OREGON

LEVY & SPIEGL

WHOLESALE

FRUITS AND PRODUCE

Commission Merchants

SOLICIT YOUR CONSIGNMENTS

Top Prices and Prompt Returns
PORTLAND, OREGON

Correspondence Solicited

Ryan & Virden Co.

BUTTE, MONTANA

Branch Houses:
Livingston, Bozeman, Billings
Montana
Pocatello, Idaho
Salt Lake City, Utah

Wholesale Fruit and Produce

WE HAVE MODERN COLD STORAGE FACILITIES
ESSENTIAL FOR HANDLING YOUR PRODUCTS
*A strong house that gives reliable market
reports and prompt cash returns*

The Old Reliable

BELL & CO.

Incorporated

WHOLESALE

FRUITS AND PRODUCE

112-114 Front Street
PORTLAND, OREGON

Richey & Gilbert Co.

H. M. GILBERT, *President and Manager*

Growers and Shippers of

YAKIMA VALLEY FRUITS
AND PRODUCE

Specialties: Apples, Peaches,
Pears and Cantaloupes

TOPPENISH, WASHINGTON

GET ACQUAINTED
WITH

HILTON-MARTYN-BALL CO.

Wholesale Fruits
and Produce

103 FRONT STREET (near Stark)
PORTLAND, OREGON

Mark Levy & Co.

COMMISSION
MERCHANTS

Wholesale Fruits

121-123 FRONT AND
200 WASHINGTON ST.
PORTLAND, OREGON

T.O'MALLEY CO.

COMMISSION MERCHANTS

Wholesale Fruits and Produce

We make a specialty
in Fancy Apples, Pears and
Strawberries

130 Front Street, Portland, Oregon

SGOBEL & DAY

ESTABLISHED 1869

235-238 West Street

NEW YORK

Strictly commission house. Specialists in
Apples Pears and Prunes. Exporters of
Newtown Pippins to their own represen-
tatives in England.

QUALITY
QUALITY
QUALITY



VIRGINIA APPLE ORCHARDS

ARE WITHIN

300 MILES OF 25,000,000 PEOPLE

VIRGINIA APPLES

are rapidly acquiring a world-wide reputation. They have sold this year at \$2 to \$3 per bushel box, and it only costs 10 cents per box in freight charges to put them into market.

NO IRRIGATION NECESSARY

Virginia's average rainfall is 45 inches. Our climate is unsurpassed, with no extremes of heat or cold. Streams and springs flow everywhere, and clear, cold, crystal water abounds throughout this section.

CONVENIENCES AND ADVANTAGES

Schools and churches are convenient and well equipped. Our rural agricultural high schools are equal to the best in the Union. Rural mail delivery and telephones serve all country districts. Low taxes, with abundant supplies of building material and labor at reasonable prices. Only twelve hours to New York City by fast passenger train service, and we are within three hundred miles of twenty-five million population.

**When You Can Buy
Apple Land at \$15.00 PER ACRE**

**That is the Equal of Higher
Priced Land in Every Re-
spect, WHY PAY MORE ?**

We Challenge Your Investigation of This Very Broad Statement

Below are cited a few instances of property now on the market. There are dozens of others similar to them.

120 ACRES, \$15.00 PER ACRE

High grade apple land, two miles from Stuart's Draft, Virginia, and overlooking the town. Lies nicely; well watered and well drained. Every foot available for orchard. In the celebrated Shenandoah Valley—right at the largest apple shipping station in Virginia. Bargain at this price.

700 ACRES, \$7.50 PER ACRE

Excellent apple and general farming land and comfortable dwelling, within one mile of nice town and depot on N. & W. R. R. 200 acres cleared and good road direct to town. Well watered by springs and streams. A big bargain for quick sale.

Write for further information and a copy of our Special Bulletin of large undeveloped tracts suitable for orchard purposes.

WHY NOT INVESTIGATE THE OLD DOMINION?

You will like it here. The delightful atmosphere and the charming social environment that prevails everywhere in this Southern section are particularly noticeable in Virginia. Our good roads, fine schools and churches, congenial neighbors and delightful climate all make life worth living, and we want to have the opportunity of welcoming you here in the Old Dominion.

This opportunity, due to special causes, is rapidly passing by. Prices are rising and it would be well for you to investigate while prices are extremely low.

Write now, while you think of it, for beautifully illustrated Quarterly Magazine, "THE SOUTHERN HOMESSEEKER," illustrated booklet "Virginia, the Home of the Apple," and a large assortment of other attractive literature, with maps, excursion rates, etc.

**ADDRESS F. H. LA BAUME, AGRICULTURAL AND INDUSTRIAL AGENT
NORFOLK & WESTERN RAILWAY, BOX 3,047, ROANOKE, VIRGINIA**

325 ACRES—HIGHLY DEVELOPED ORCHARD

About 4,500 trees, 8 to 30 years old. Albemarle Pippins and Winesaps, all in fine condition and bearing good crops. Improvements consist of cold storage plant, dwelling, cottage, barns and other buildings. Also live stock, harnesses, wagons and general farm equipment, 5,000 apple boxes, wrappers, labels, etc. Conservative estimate of next year's crop is \$15,000, judged from condition of trees, buds, etc. A close corporation and stock all held by three or four men, who will sacrifice at \$35,000 in order to devote themselves to other business interests. A very special bargain at this figure.





CALIFORNIA

THIS WINTER

FAMOUS THE WORLD OVER

for its splendid hostelrys, its varied attractions, fine beaches, hot springs and pleasure resorts —can be reached with ease by the

**Oregon-Washington
Railroad and Navigation Company**
AND
Southern Pacific Company
"ROAD OF A THOUSAND WONDERS"

\$55.00

Portland to Los Angeles and Return
with correspondingly low fares from all points on O.-W. R. & N. Co. Tickets on sale daily, good six months with stopovers going and returning within limit.

Handsomely illustrated literature can be secured from any of our agents, or address

WM. McMURRAY
General Passenger Agent
Portland, Oregon

The HARDIE TRIPLEX

The Sprayer with the Trouble Left Out



Each year demonstrates the fact that the Hardie Triplex is best adapted to Northwestern orchard conditions.

This machine is built to work successfully in any kind of an orchard, whether it is closely set or open, level or hilly.

By using good materials in construction, we give you light weight without sacrifice of strength.

All the liquid you need and at an even continuous high pressure.

A Hardie Triplex means to you Better Spraying in less time and at lowest cost.

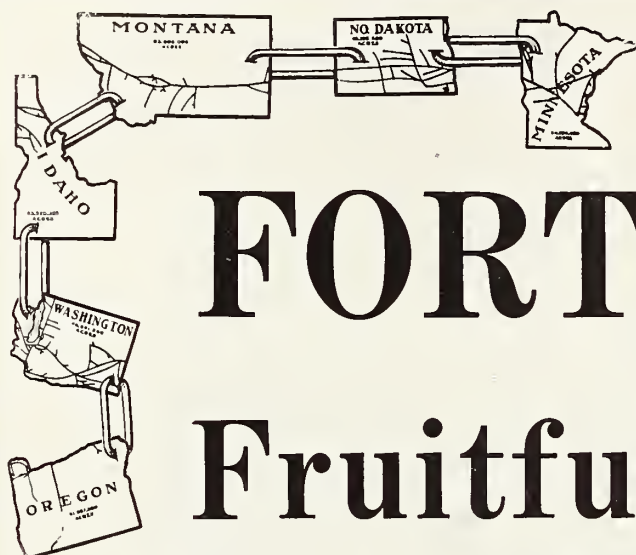
A postal card brings you our new 64-page catalog; giving a detailed description of the construction of our Triplex and twenty other hand and power sprayers; new spraying devices, etc.

Write for it today.

The Hardie Manufacturing Company

Hudson, Michigan

49 North Front Street, Portland, Oregon



FORTUNES

IN THE

Fruitful Northwest



Big Victory for Apples

The New York Apple Show for 1911 resulted in another big victory for Northwestern apples. Eleven out of twelve of the highest prize scorings went to Northwestern states, the Yakima Valley coming in a strong first prize winner. Mrs. Ella D. Rowland, of Zillah, Washington, won the Northern Pacific Railway First Prize of \$500 in gold.

The results prove that the Northwest produces the finest fruit in the world.



Where Are the Best Apples Grown?

Unquestionably they are grown in the Northwest. The Eastern markets pay the highest prices for fruit from Montana, Idaho, Washington and Oregon.

As a matter of detail, in Washington are the noted Yakima, Wenatchee, Kittitas, Columbia River, White Salmon, Palouse, Spokane, and Snake River Valleys.

In Oregon there are the Rogue River, Umpqua, Willamette, Columbia River and Hood River fruit districts.

Idaho has the rapidly developing Lewiston-Clarkston and Clearwater country.

Montana claims the Flathead, Bitter Root, Clark Fork and Yellowstone Valleys.

In these districts is grown the highest quality of fruit, particularly apples, of which the world has knowledge, and to them came the most of the New York Show fruit prizes.



Note Well This Fact

From 1850 to 1897, experts aver, the population of the country increased 270 per cent, and the consumption of fruit increased 2,000 per cent, and yet the prices of fruit are higher today than in 1850.

Further; notwithstanding this tremendous increase in consumption, the production of fruit has steadily diminished for 15 years. In 1896 there were produced 69,000,000 barrels of apples; in 1911 the estimated production is 28,600,000 barrels.

Can you see any over-production in this?



The Land of Fortune

The Northern Pacific calls its territory "The Land of Fortune." When you know what farmers and fruit growers have done in this fertile territory, you will agree that it is not misnamed.



Other Notable Crops

This "Land of Fortune" raises something more in the fruit line than apples. There are peaches, pears, plums, prunes, grapes, etc. In the vegetable line it raises mammoth mealy potatoes, sugar beets, tomatoes, watermelons, cantaloupes, lettuce, celery, etc. A Washington fruit grower, from 4 acres of Jonathan apples, in 1911 netted \$553 an acre. Another man recently netted \$1,300 from 9 acres of watermelons growing between young fruit trees. A quarter of an acre of lettuce netted another man \$400. On irrigated land in the Yellowstone Valley of Montana a former postoffice clerk took, gross, \$7,000 in sugar beets from his 40-acre farm. Another Montana "dry land" farmer, from a 40-acre field of Turkey Red wheat, reaped 21 bushels an acre, and still another one took from a half-acre potato patch on a steep sidehill three tons of "spuds." A Minnesota farmer shipped a carload of potatoes recently to market and the product of 2 1/4 acres netted him \$147.45 after paying freight.

Now send it to

L. J. BRICKER
General Immigration Agent
St. Paul, Minnesota, or

A. D. CHARLTON
Assistant General Passenger Agent
Portland, Oregon

A. M. CLELAND
General Passenger Agent, St. Paul



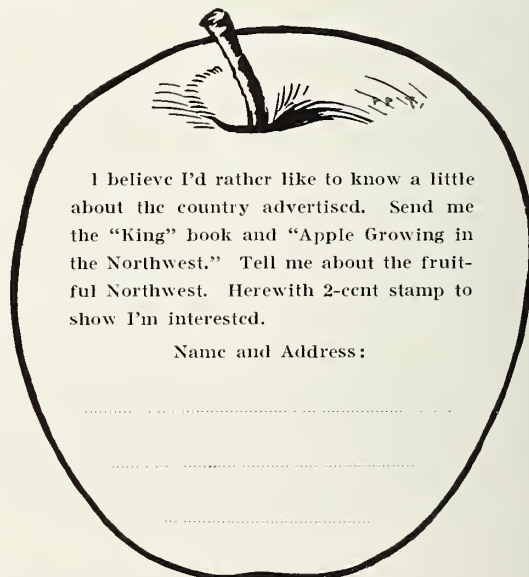
The King of the Land of Fortune

The Northern Pacific has so styled the Apple. We have a book of this title, and a most intensely interesting book it is. Another one is called "Apple Growing in the Northwest." After reading them you'll see the Northwest as an apple growing region in a new light. Maybe you'll begin to think about the matter seriously as an opportunity worth looking into. There's good orchard land still to be had—some high priced, some medium, some low. You can buy a young orchard or you can set out your own, suiting yourself as to the kind of fruit you'll grow.



NOW

Here's a coupon that will start it. Limber up your Waterman. Clip the Slip. Grapple with the Apple. Do it NOW.



I believe I'd rather like to know a little about the country advertised. Send me the "King" book and "Apple Growing in the Northwest." Tell me about the fruitful Northwest. Herewith 2-cent stamp to show I'm interested.

Name and Address:

Northern Pacific Railway

The Scenic Highway Through the Land of Fortune



The Kimball Cultivator

maintains this high state of cultivation in the orchards on the Morrisania Ranch near Grand Valley, Colorado, owned by the Fruit Grower, of St. Joseph, Missouri.

Smoothing Land for Irrigation

As an implement for smoothing land for irrigation, the Kimball Cultivator has perhaps no equal, since it cultivates the soil and smooths it at one operation. Many fruit growers who practice irrigation use a drag or float to smooth their soil previous to running irrigation furrows, and this work is of little or no value in cultivating the soil—it simply smooths the surface, so that irrigation furrows can be better made. If the soil is not smoothed, there is often great trouble from the water breaking over or through the furrows. When the furrows are made in smooth soil there is likely to be little trouble experienced.

At Morrisania Ranch, near Grand Valley, Colorado, the land has a rather heavy slope, and irrigation is best practiced with the furrows running diagonally with the slope. If the furrows are run in rough soil, there is always a tendency for the water to break through the furrows and run straight down the hill. Formerly the soil was dragged just before the furrows were run, to smooth the soil properly. This was extra work, for the smoothing process was of little benefit otherwise.

During the season of 1911 we bought two Kimball Cultivators from W. A. Johnston, The Dalles, Oregon, and did away with the use of the float altogether. Our method was to use disc harrows after the irrigation, just as soon as the soil was dry enough. This cultivation filled in the furrows and made a mulch to hold the moisture. Within a week or ten days weed seeds sprouted and another cultivation was needed, and here the Kimball Cultivator was used. It killed the weeds, made a perfect dust mulch, and left the soil in ideal condition for the irrigation furrows. If weeds started again before irrigation was needed, another cultivation was given with the Kimball, and the soil was still left just right for the best irrigation furrows to be run when needed.

We were much pleased with the Kimball Cultivator, as a weed-killer, a thorough cultivator and leveler, and as a saver of time. One good man covered a great deal of ground, using one good team. The cultivator works up close to the trees, leaves the soil level and smooth, with just the right kind of dust mulch, and, altogether, we were much pleased with the Kimball and its work. Our crop at Morrisania was a very good one, the apples being of high quality; trees made a very vigorous growth, and there was no skinning of trunks or limbs by the cultivator. In soil which is not stony, the Kimball Cultivator cannot be beaten, where one does not allow the weeds to get too large, and it is especially adapted to use in irrigated orchards for the reasons given in this article.

JAMES M. IRVINE,

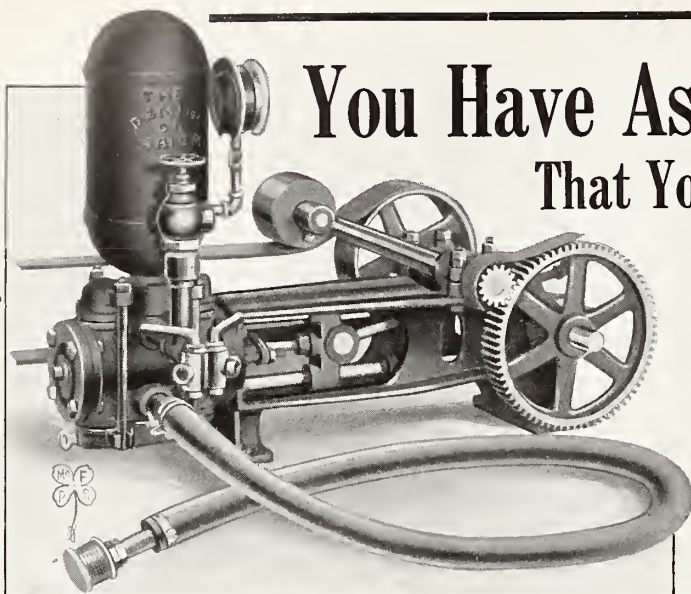
Editor The Fruit-Grower, St. Joseph, Missouri.

SEND FOR BOOKLET—IT'S FREE

W. A. Johnston, Manufacturer Kimball Cultivator

OFFICE, 422 EAST THIRD STREET, THE DALLES, OREGON

LONG DISTANCE PHONE, RED 991



You Have Asked for a Spray Pump That You Could Run with the Engine You Already Have; Here It Is, and It's Well Worth Waiting For Too!

Heretofore, in order to have a power sprayer at all, you've had to do one of two things—get one from the makers, all complete, engine and all, or else rig up a pump as best you could to the engine you already have. This latter course OUGHT to have worked all right, but it frequently DIDN'T—because the pumps generally supplied weren't especially designed for the work. But the DEMAND has kept growing, and so, during 1911, we looked carefully into the situation, decided that there

was a big field for such a machine, and set to work in a thorough-going way to bring out a pump that would really answer the purpose. And here it is—The Deming "Figure 765" Power Spraying Outfit.

The Deming "Figure 765," Comes to You Ready to Run—and Run RIGHT

Take a good look at this picture. Notice how stout and substantial the pump is—every inch of it planned carefully, and figured over and over again. It is made on a rigid framework of cast iron and weighs about 200 pounds. We do not think there is an unnecessary ounce of metal anywhere about it, and the weight is distributed so the machine is well-balanced. It stands 25 inches high to the top of air chamber, and is about 35 inches by 14 inches over all. It can be operated by any engine of 2 horsepower or more.

Pump and engine are connected by a belt which cannot jump off. We furnish pulley and belt, and a spring idler which always keeps the belt just right—not so tight as to waste power nor so loose as to jump off and make trouble. The gear wheels are accurately cut.

Strong and Substantial and Durable, But Not Clumsy

—that's the way we would describe the Deming "Figure 765." The cross-head is GUIDED ABOVE AND BELOW—no matter how much of a sidewise pull it got, it couldn't go in any direction but STRAIGHT BACK AND FORTH. That means the plunger can be fitted snug and close in the cylinder. Another good point is the good-sized air chamber. This gives plenty of buoyancy or "spring" to the pumping, and holds the pressure steady.

The Deming "Figure 765" has connections for 4 leads of hose, each with separate cut-off cock. It has automatic relief valve and standard pressure gauge, registering up to 100 pounds. The working parts are of REAL BRASS. Pistons, valves, cylinder linings—all parts where liquid touches. Iron or steel will rust out, but brass cannot; iron costs less, but brass is more economical.

We Want You to Write and Ask Questions

We have gone into detail because we want you to know ALL the particulars. NOW we want you to write and ask questions. We have told you the general facts. You want to know what it can do for YOU, and we want you to know. Tell us what kind of an engine you have, its rated horsepower, speed, type (whether vertical or horizontal)—and we'll send you full information, prints and quotations.

We Make More than 20 Other Sprayers — Catalog Free

We make regular power outfits of various types—machines that have been tested in every fruit-growing state in the Union and have made good. Beside, we make hand-power sprayers from the largest to the smallest—barrel sprayers of many styles, knapsack and bucket pumps for gardens and poultry houses.

Our Catalogue is ready and will be mailed on application to any of the addresses below.

Consult Your Dealer or Our Nearest Agent

Deming Sprayers are handled at all the following branch stores of Crane Co., and by leading hardware and implement dealers all over the Coast. YOUR dealer has our prices, or can get them. Insist upon his supplying you with DEMING outfits; if he refuses, write us direct, mentioning his name. If you cannot secure them at home we will supply you at factory prices.

CRANE CO., Pacific Coast Agents

PORTLAND, SEATTLE, SPOKANE, SAN FRANCISCO

THE DEMING COMPANY, Manufacturers, 335 Success Building, Salem, Ohio

Spray Pumps, Hand and Power Pumps for all uses, Hydraulic Rams, etc.

DEMING SPRAY PUMPS

GET A MANVILLE APPLE GRADER

and save one-half your expense in grading your apples



By the use of this grader seven people can size and grade for color and defects 1,000 to 1,500 boxes of apples a day. This avoids the bruising of apples by dropping them into boxes, as they go directly from the grader to the packing tables. The most tender varieties can be sorted by this machine without fear of being bruised.

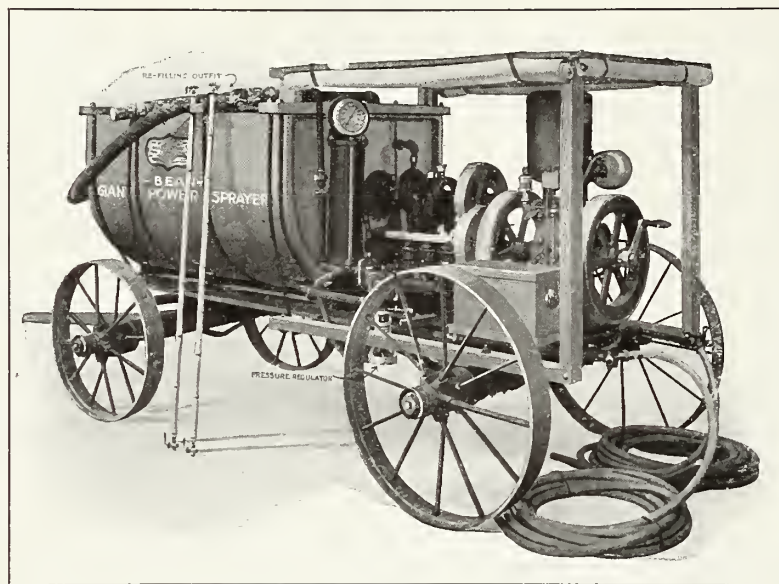
Awarded the gold medal at the Spokane National Apple Show, 1911, for the best sizing and grading machine ever put on exhibition.

MANVILLE FRUIT CO.

Box 847

BOISE, IDAHO

BEAN SPRAYERS ARE BIG PAYERS



There is a sure, certain, unfailing way to insure large crops and fine fruit.

It is applicable to all orchards—and invariably increases the profits. Many growers already know the secret. Many more soon will. Here it is—

SPRAY WITH A Bean Power Outfit

Three outfits—Giant, Challenge, and Pony—differing chiefly in capacity.

They have all the best features of other outfits—and many exclusive features to be found on no other sprayer.

The Bean Pressure Regulator is something entirely new. It is without doubt the greatest improvement in spraying outfits since sprayers came into general use.

It makes possible a constant, even, HIGH pressure, and saves from one-fourth to one-third of the gasoline and the same proportion of wear and tear on engine and pump. Always safe and dependable.

The Bean Patented Threadless Valves are used on all Bean Sprayers. Reversible seats. When one side is worn, turn the seat over.

Our porcelain-lined cylinders never wear out.

Instead of belt or lever connection, Bean Power Sprayers are built with direct machine-cut gear connection. Another big advantage.

The Underneath Suction avoids priming, increases the capacity, and saves replacing cracked suction hose.

Wood frames have been discarded. In their place we use steel frames, which are infinitely better.

Tanks are easily cleaned—they are made with an iron well inside.

Another feature—and a good one—is the Patented Cut-off and Air Suction in the tank. This does away with the necessity of pulling out the suction hose.

There are many other exclusive Bean features. If you're interested, fill out the blank on this page and send it for a copy of our new catalog, which pictures the various Bean Hand and Power Sprayers, and describes them in detail.

Don't buy a sprayer till you have become familiar with the Bean line.

Bean Spray Pump Co.

213 W. Julian Street

SAN JOSE, CALIFORNIA

Eastern Factory, Cleveland, Ohio

Sign and mail this coupon if you want a copy of our new catalog

Bean Spray Pump Co.

213 W. Julian Street, San Jose, California

Please send me a copy of your latest catalog. I am interested especially in.....sprayers.
(hand or power)

Let Us Make An Orchard to Order for You at Mosier

Here is about what it will cost you:

	Per Acre
Cost of raw land (average).....	\$75.00
Cost of clearing land.....	55.00
Cost of breaking.....	5.00
Cost of setting trees.....	16.50
Miscellaneous, for five years.....	50.00
First year's care.....	15.00
Second year's care.....	13.00
Third year's care.....	13.00
Fourth year's care.....	15.00
Fifth year's care.....	20.00
	<hr/> \$277.50
Income	
First year's products (net).....	\$20.00
Second year's products (net).....	35.00
Third year's products (net).....	40.00
Fourth year's products (net).....	30.00
Fifth year's crop, apples (net).....	65.00
	<hr/> 190.00

A bearing orchard will cost you..... \$87.50

We are fully equipped to do this work, and make no charge, except a small monthly amount for superintending.

One of the best features of the plan is, that you may select your land from any raw land on our large list, and are not confined to any given tract. We will be glad to furnish you any further information.

D. D. HAIL CO.

MOSIER, OREGON

NO TROUBLE TO ANSWER QUESTIONS

What Constitutes a Good Spray Pump?

High Pressure—to throw a strong, fine spray.

A Pump—of sufficient capacity under slow speed.

An Agitator—to keep mixture well stirred so that it cannot clog pipes and nozzles.

Some Method of Cleaning the strainer.

Ask any fruit farmer with experience. He will tell you that the most annoying thing is to find pump, suction or nozzles clogged when he has a tank full of spray mixture in the orchard and must *clean out* before his sprayer will work.

Here We Come In Automatic Brushes with Mechanical Agitators furnished with Empire King Barrel Pump and Watson-Ospraymo Potato Sprayer, also with Leader-Triplex Gasoline Engine Machines of 10 gallons per minute capacity, and capable of a nozzle pressure of 250 to 300 pounds.

These Triplex Pumps are run only 40 to 50 revolutions per minute. This slow speed means long life, greater efficiency, less up-keep cost, the weight is not too heavy for two horses—1550 pounds with 2 H.P. engine and 150 gallon tank, including wagon with five-inch tires; or with 3½ H.P. engine and 200 gallon tank, 1800 pounds.

The prices are not too high for efficiency, durability, capacity and satisfaction.

Are you interested? A postal will bring you into touch with our nearest agency.

FIELD FORCE PUMP CO.
Dept. B ELMIRA, N. Y.

Insist on
This Trade Mark



Western Pacific Railway

The New Transcontinental Highway

REACHES a rich agricultural territory hitherto without a railroad.

OPENS new markets to the merchant and orchardist and a virgin field to the land-seeker.

A one per cent maximum grade, obtained at the cost of millions, makes possible the fastest freight service ever given to California shippers

DAILY through merchandise cars for package freight

FROM Boston, New York, Chicago, St. Louis and Kansas City

FOR all points in Northern and Central California.

For rates and routing instructions, etc., write H. M. ADAMS, F. T. M., Mills Building, San Francisco

The New Transcontinental Highway

Western Pacific Railway

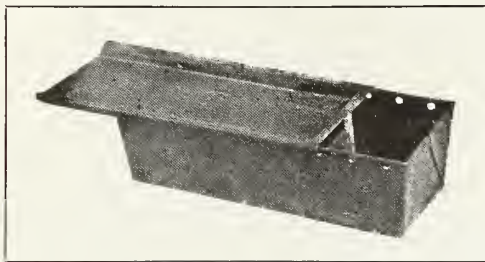
WHEN WRITING ADVERTISERS MENTION BETTER FRUIT

ACID BLAST ETCHED PLATES
We have installed the only etching machines in the State of Oregon
Blast etched cuts have a printing quality which has never before been obtainable with process engraved plates
THEY COST THE SAME AS THE OTHER KIND

WE MAKE CUTS THAT PRINT

HICKS - CHATTEN ENGRAVING CO.
607 BLAKE-McFALL BLDG., PORTLAND, OREGON

The Hamilton Reservoir Orchard Heater



The most powerful and most efficient Orchard Heater on the market, and has produced most remarkable results, due to

THE REGULATED FIRE

Draw the Cover and Get All the Heat You Need

This means the burning of one gallon of oil per heater in ten hours for a mild frost, one gallon of oil per heater in six hours for heavy frost, one gallon per heater in four hours for hard freeze with wind, or one gallon per heater in two hours should an extreme emergency arise, and use the same number of heaters all the time. This is FIRE REGULATION and means absolute safety to your crop against any weather condition. To increase the heat, increase the consumption of oil. Added to this feature is a large fuel capacity (three and six gallons), and the two combined in one device make it the most powerful and satisfactory for this work. Do you get any of these features in any other heater offered you? Make careful comparisons before buying and you will at once appreciate the vast superiority of the Hamilton Reservoir. Our new literature will tell you of other superior features of this heater and what it has done for thousands of growers. Better write for it today.

Hamilton Orchard Heater Co., Grand Junction, Colorado



No Danger from Frosts to Your Crops and Fruits

if you have a "Tycos" Alarm Thermometer installed. It saves the expense and labor of having your heating or "smudging" device running at unnecessary times, and warns you with certainty of approaching frost. It is indispensable to the orchardist and fruit grower. It pays for itself every year if there is no frost, and may pay for itself a hundred times over by giving the "frost alarm" when danger is least expected.

A "Tycos" ALARM THERMOMETER Rings Warning in Your Ears

at just the right time. The bell can be located anywhere desired. It rings when the temperature reaches the point of danger—the "frost alarm" flashes over the wires from the place where the thermometer is located.

When you buy any kind of a thermometer always look for the name "Tycos"—there's a "Tycos" thermometer for every purpose. The name is your protection and our guarantee. Write for booklets, "Thermometer Facts," "Tycos Tips for Butter Makers," "The Thermometer Book," etc.

The entire system is so simple that anyone can install it. That it is made for lasting, reliable service is guaranteed by the name "Tycos," which means on a thermometer instrument what the eagle means on a dollar.

The "Tycos" Automatic Alarm Thermometer may be installed in Single Alarm Thermometers or Annunciator Connection Systems. If your dealer can't supply you, write us.

We will mail you free our booklet showing diagrams of the systems, which explain with simplicity the installation and operation of the "Tycos" Automatic Alarm Thermometer.

WRITE TODAY FOR IT

Taylor Instrument Companies

105 Ames St., Rochester, N. Y.

"Where the Thermometers come from"



This Light Weight Grader Will Solve Your Irrigation Problems

It is an all-steel one-man machine. It weighs only 600 pounds. It will stir your soil, level your land, cut laterals, pick up dirt and drop it where you want it, and cut ditches 24 to 36 inches deep at a cost of 2 cents a rod. It will do more work than big heavy graders in less time and with less effort. One man with two horses operates it. Ditches cut with the 20th Century Grader are "V" shaped, with firm, solid sides—no fear of their being washed down.

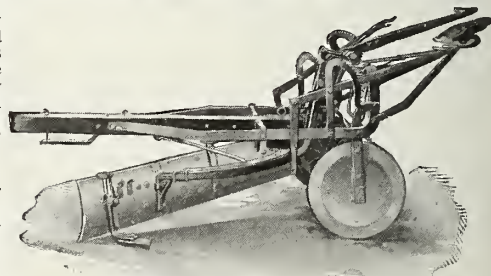
20th Century Grader

is a many purpose, easily operated machine that pays for itself over and over again and puts money into your pocket.

To get big results your work must be right, so you must have the right machine.

Let us tell you what others say about this wonderful machine. We want to prove to your satisfaction that it's a genuine money-maker. There are many uses to which the 20th Century Grader is specially adapted and many ways you can make big money by using it on your ownland and on your neighbors'.

Write for our interesting and valuable free hook giving full information about this money-making machine, what it has done for thousands and will do for you.



THE BAKER MANUFACTURING CO.

542 Hunter Building
CHICAGO, ILLINOIS



Quality Bearing
Quantity Bearing



Don't Gamble with trees of uncertainty

You Ought to Know That every tree you plant has a pedigree behind it

Planting just trees is nothing short of gambling, and this has been the cause of more unprofitable fruit growing than all other causes together. The trees you plant and grow will never make you a profit unless they habitually bear quality and quantity crops—and there is ordinary scrub blood in trees, just the same as in live stock. Planting such trees is absolute gambling.

We Positively Know That every tree we sell you has profitable fruiting prepotency

In every full-grown bearing orchard there are just a few trees of remarkable habitual quality and quantity bearing. We spare no expense to locate such trees in many states and to secure the exclusive scion cutting privileges. The trees which we propagate from such scions will repeat such unusual profit—giving you a whole orchard like the pedigreed parentage.

THE MONCRIEF SYSTEM

of Pedigreeing Known Fruitage Prepotency is the only method of propagating trees which positively assures unusual crops of habitual

✻ Quality Bearing ✻ Quantity Bearing ✻



J. MONCRIEF, President

To all those interested in growing fruit—Commercial Orchard Planters and Home Owners—we will send a copy of our

Grand Book "Progressive Horticulture" Free to You

We maintain a Special Free Consultation Department. If you are contemplating an investment in orcharding and will write us fully as to location, acreage, etc., we will be glad to furnish you our advice—without obligation. This may prove extremely valuable to you.

WINFIELD NURSERIES

Winfield Nursery Co. ✻ J. Moncrief, President ✻ Winfield, Kansas

We are the only nursery in the world which grows exclusively by this method



Spray Your Fruit for Codling Moth with
Grasselli Arsenate of Lead
 IT IS THE BEST

Distributers in the Northwest

OREGON

Hardie Manufacturing Company.....Portland
 Hood River Apple Growers' Union.....Hood River
 Rogue River Fruit and Produce Association.....Medford
 Salem Fruit Union.....Salem

WASHINGTON

Inland Seed Company.....Spokane
 Samuel Loney & Co.....Walla Walla
 Yakima County Horticulturists' Union.....North Yakima
 Plough Hardware Company.....Wenatchee

IDAHO

Cash Hardware Company.....Lewiston
 C. J. Sinsel.....Boise
 Darrow Bros. Seed and Supply Company.....Twin Falls

MONTANA

Missoula Drug Company.....Missoula
 And in all consuming districts

Winners of the GRAND SWEEPSTAKE PRIZE of \$1,000.00
 for best car of Apples shown at the National Apple Show,
 Spokane, Washington, were as follows:

1908—M. Horan, Wenatchee, Washington.

1909—Tronson & Guthrie, Eagle Point, Oregon.

1910—C. H. Sproat, Hood River, Oregon.

All the above sprayed with Grasselli Arsenate of Lead.

MANUFACTURED BY

THE GRASSELLI CHEMICAL CO.

Established 1839

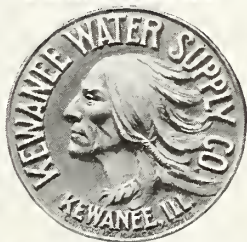
MAIN OFFICE: CLEVELAND, OHIO

DISTRIBUTERS IN ALL THE FRUIT GROWING DISTRICTS

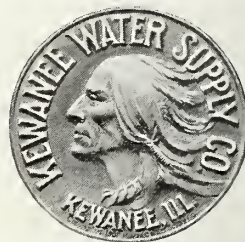
For further information write nearest distributor named above, or The Grasselli Chemical Co., St. Paul.

Branch Offices	{	New York	Chicago	St. Paul
		St. Louis	Cincinnati	Birmingham
		New Orleans	Milwaukee	Detroit

The Quality That Wears vs. Trouble and Repairs



THE
KEWANEE
 SYSTEM OF
WATER SUPPLY



(This Trade-Mark on all genuine Kewanee tanks and machinery protects the public and honest dealer.)

PRIVATE WATER SUPPLY PLANTS

That Equal the Best City Service

**Compact
Simple**

**Durable
Complete**

**Frost Proof
Germ Proof**

**Dirt Proof
Almost Fool Proof**

Widely Imitated But Never Equaled

Any power and any capacity of pump from 100 gallons to 12,000 gallons per hour—air tight steel storage tanks from 200 to 20,000 gallons capacity.

Any pressure up to 150 pounds per square inch, equal to a tower over 300 feet high.

The whole system is installed out of sight. Kewanee Pumping Units are tested under your conditions at the factory, and are ready to use when the crate is taken off.

Write for Catalog No. 61, gives full particulars.

Distributors

JOHN DEERE PLOW COMPANY

Kewanee Water Supply Company
 Kewanee, Illinois

Portland, Oregon



Another New Stark Book is Ready

By the time you read this announcement the new Condensed Stark Year Book for 1912 will be ready to mail.

Ask us to mail it to you—Free

Just say on a post card, "Send me the new Condensed Stark Year Book." Then sign your name and address. The next returning mail will bring you your copy.

What This New Book Is

The Condensed Stark Year Book is a safe, trustworthy guide for tree-planters and orchardmen.

The wealth of information it carries is the work of many men. The brightest horticultural minds and thousands of successful orchardmen in all parts of the country were called upon to furnish the cream of their experiences on the many subjects related to tree-growing. To this has been added the knowledge we have gained from our 86 years' experience.

This great mass of matter was then turned over to our experts. We instructed them to sift the wheat from the chaff—to condense and simplify it until it could be easily understood even by the man who knows nothing about trees or their care. They did it, and did it well.

Think what such a book means to you! No one man, however well informed, could possibly prepare a book the equal of the Condensed Stark Year Book. No one man's lifetime could possibly cover the experiments and tests of varieties reported on in this free book.

Let this new book be your orchard guide book. It will always be on hand to answer perplexing questions. It will help you reduce mistakes; it may save you from committing a costly error.

A Free Service Plan For Tree Planters

The Condensed Stark Year Book has been prepared with painstaking care. It will answer the greater majority of planting questions. But there are special conditions in almost every tree-planter's undertakings requiring special information.

If you have problems, in solving which you feel the need of exact information, ask our Special Service Department to help you. This department is under the direction of our experts. They will gladly go into your problems in detail. The benefit of their long scientific training is yours for the asking. There is no charge for this service.

Probably the greatest assistance this department can render is in helping you to get started right in the beginning. You know that an "ounce of prevention is worth a pound of cure." Why not, then, get in touch with us now on your planting plans for next spring?

In sending you our literature and giving you free call on our Special Service Department we naturally hope you will plant Stark Trees. And, given an opportunity to counsel with you, we are confident that we can show you why it is to your advantage to buy Stark Trees.

Stark Trees are good trees. They are the best trees that modern scientific practice, backed by 86 years of good tree-growing experience can produce.

Stark Bro's Nurseries & Orchards Co.
Dept. 112 Louisiana, Missouri

To Fruit Growers of the Northwest

The House of Steinhardt & Kelly, New York, take great pleasure in advising the Fruit Growers of the Northwest that they have again acquired on a purchase basis large blocks of their products consisting mainly of Apples and Pears. No concern in the East has so consistently used its best efforts on behalf of the Growers of the Northwest, and we herewith desire to thank them for their co-operation in giving us their support by putting up the most magnificent pack of fruit the East has ever seen.

Particularly do we desire to commend the Growers of

The Hood River Valley of Oregon,

The Wenatchee Valley of Washington,

The Bitter Root Valley of Montana,

The Mosier Valley of Oregon

and among the individual packers and shippers

The Wenatchee Produce Company of Wenatchee.

Steinhardt & Kelly

101 PARK PLACE, NEW YORK

The Most Extensive Operators in High Class Fruits in the World

Purveyors to the Most Discriminating and Exacting Clientele

Direct Connections in all the Leading Markets of United States and Europe

BETTER FRUIT

AN ILLUSTRATED MAGAZINE PUBLISHED MONTHLY IN THE INTEREST OF MODERN, PROGRESSIVE FRUIT GROWING AND MARKETING

Fourth National Apple Show, Spokane, Washington

By August Wolf of Spokane

WHEN the Fourth National Apple Show and the Enakops jubilee closed in Spokane the night of Thanksgiving day with the unmasking of King Apple IV, in the person of former United States Senator George Turner, and the playing of "Auld Lang Syne" by massed bands the preliminary work was begun by the board of trustees, headed by E. F. Cartier Van Dissel, for the fifth annual competitive exposition, which probably will be housed in a permanent structure, to be completed in time for the 1912 exhibition. Broad in scope and comprehensive as was the show and accompanying entertainment, November 23 to 30, it is officially announced that the coming exposition will be more in keeping with its name, plans being under way to secure displays from every state and province in America. The show just closed was successful in every way. There were not as many exhibits as in 1910, but the displays were arranged in such a way as to give the prospective orchardist as well as the experienced grower a better opportunity to study the educational features. The temporary structure, 200 by 525 feet, with two annexes each 90 by 100 feet, afforded ample room for the proper display of all exhibits. The work of the board of judges, consisting of C. J. Sinsel of Boise, Idaho; James Gibb of Kelowna, British Columbia, and H. J. Eustace of East Lansing, Michigan, was highly satisfactory, and they and Ren H. Rice, secretary of the show, and his assistants received praise on all sides.

The Enakops carnival, under the direction of a general committee headed by Charles Hebbard, was the means of uniting more closely the commercial and industrial interests of Washington, Oregon, Idaho and Montana, many communities of which were represented by growers, princesses of the empire and band organizations. This was emphasized in the closing address by Ex-Senator Turner, who said in part: "Being a king, the thing that struck me of first importance is the extraordinary splendor attendant upon my coronation. There has been nothing like it since the coronation of my royal brother, King George of England. While there has perhaps not been the solemnity that is characteristic of the more prosaic kingdoms, perhaps it may be accounted for by the influences of cider that are with the Kingdom of Apple. In the Apple Kingdom we all live in a care free atmosphere. In this

Features of this Issue

LEADING APPLE SHOWS AND
HORTICULTURAL FAIRS OF
THE UNITED STATES

FOURTH NATIONAL APPLE SHOW
SPOKANE

THE WATSONVILLE APPLE ANNUAL

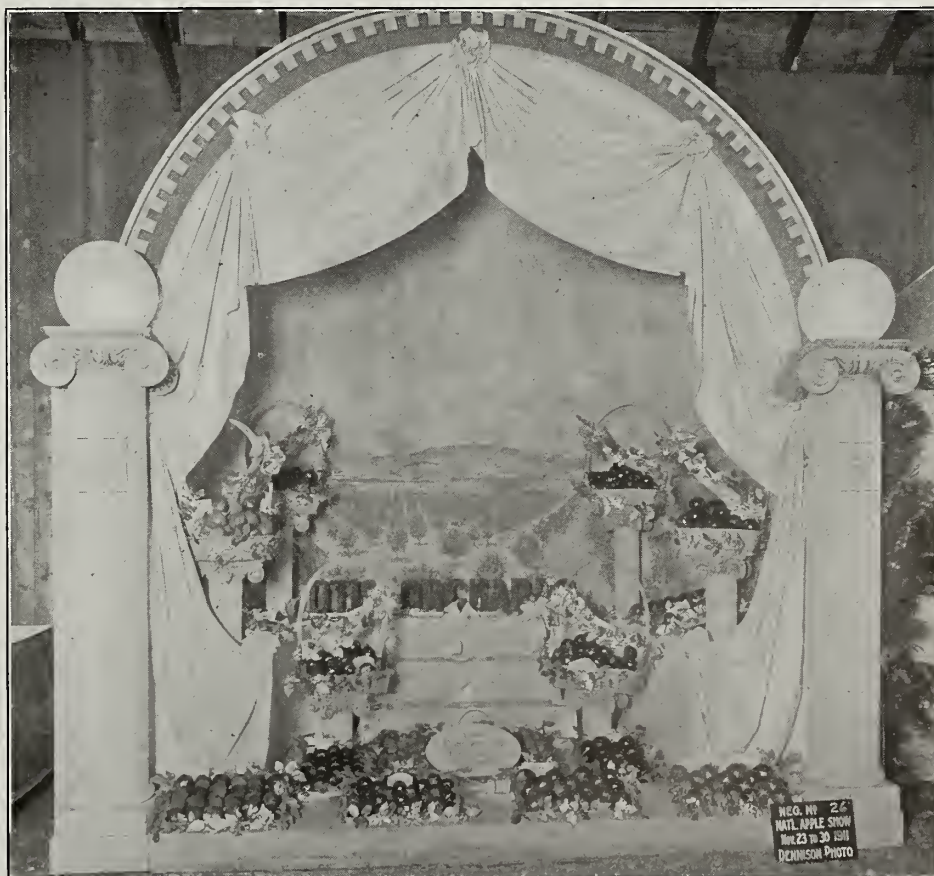
AMERICAN APPLE EXPOSITION
DENVER

THE NEW YORK LAND SHOW
PLANTING AN APPLE ORCHARD IN
IDAHO

CO-OPERATIVE METHODS IN FRUIT
MARKETING
(Continued from last issue)

kingdom there is no one who would murder the high officials or steal the royal jewelry. There is no one to plot

against the dynasty, and therefore the spirit that moves us is one of joyousness. So we boldly and joyously proclaim: 'On with the dance, let joy be unconfined.' I want to speak of the splendid court that has surrounded King Apple. The princesses and the dignitaries have presented a galaxy of beauty and dignity beyond comparison, and your king is more favored in this way than any of the other crowned heads. It will be my task, as well as my pleasure, to see that the young ladies of our royal court contract happy matrimonial alliances, that the Kingdom of Apple may ever live and be surrounded by such loyalty. It gives me great pleasure to especially commend Prime Minister Van Dissel, Secretary of State Rice and Field Marshals Hebbard and Slater. May the Kingdom of Apple long have the benefit of their wise counsel and the support of their strengthening arms in times of rejoicing. There is no reason why the territory of the Columbia and



Otis Orchards (Washington) Commercial Club display, winning the first prize of \$200 for the most original and attractive display, at the Fourth National Apple Show, Spokane, Washington, November 23-30, 1911



A model apple orchard made of sugar and exhibited by the Northern Pacific Railway, at the Fourth National Apple Show, Spokane, November 23-30, 1911

its tributaries should not continue to be the first apple kingdom in the world to the end of posterity. And beautiful Spokane, located in the center of this kingdom, is the natural capital, possessing as it does a generous people who pour out their money like water to make the advantages of the kingdom known to all the world. As ruler of this empire, I give to them unstinted praise for what they have done. In a kingdom the word of the king is final, and I tell you now that the Fourth National Apple Show has been an unqualified success and has been of immeasurable benefit to the apple empire of the Pacific Northwest. In a perfect kingdom the king never dies. The individual may die, but there is a succession to the throne. So I now close this formal ceremony with the declaration, "The king is dead; long live the king." Mr. Turner retired amidst prolonged applause, the audience in the auditorium standing. Afterward Mr. Turner, accompanied by Mrs. Turner, inspected the various displays and complimented the exhibitors upon the excellence of their fruit and the happy arrangements of the booths.

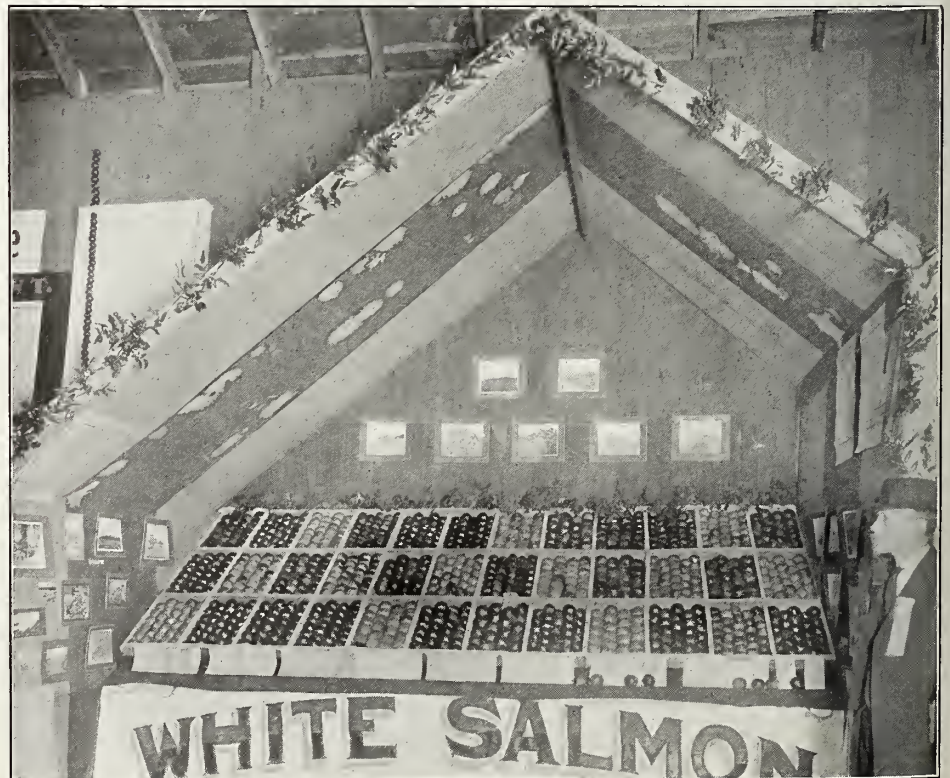
The week's festivities began with the formal opening of the show at 10:30 o'clock the morning of November 23, the day's program including the dedication of Monroe Street bridge, a \$500,000 structure, which has the largest single span (281 feet) of concrete in the world. This was followed by band concerts in the afternoon, and the official and military parade in honor of King Apple in the evening. Afterward the king and princesses, representing thirty-five communities in the Inland Empire, and members of the court visited the show grounds. Other features of the week were: Princesses' Day, November 24.—Decorated automobile parade, street concerts, official wel-

coming of the princesses of the empire and their Spokane hostesses, and the coronation ball in the Hall of the Doges. Royal Industry Day, November 25.—Parade of industries in the Inland Empire, street amusements, flight of 2,500 illuminated balloons and theatre parties for princesses and hostesses. Inland Empire Day, November 27.—Parade with Inland Empire floats, accompanied by twenty-seven bands from Washington, Oregon, Idaho and Montana, concerts by six hundred and eighteen musicians, under the direction

of M. B. Compton, and the kirmess dances. Fraternal Order Day, November 28.—Sham battle at Monroe Street bridge, seven companies of federal troops in command of Lieutenant-Colonel Charles W. Penrose, U. S. A., commandant at Fort George Wright; coronation of King Pip and initiation of Inland Empire mayors by the Mystic Order of Enakops, parade of fraternal orders, six thousand men in line; banquets for princesses and hostesses and the official representatives of Northwestern delegations. Mardi Gras, November 29.—Street pageants and four masquerade balls, princesses' "Seeing Spokane" automobile trip. Thanksgiving Day, November 30.—Championship packing contest, revealing of King Apple and closing address.

The principal streets were decorated with miles of flags, pennants, bunting and apple shields, and twenty-five thousand red, blue and yellow incandescent globes were added to the electric illumination of Riverside Avenue and Browne Street. The office and store buildings in the business district were also in gala day attire, and in every other way the city gave itself over to the glorification of the emperor of fruit. The weather was ideal. There were thousands of visitors from all parts of the Northwest, also officials of horticultural societies and official representatives of the United States and Canadian governments, among the latter being William H. Bunting of St. Catharines, Ontario, delegated by the Department of Agriculture of the Dominion of Canada to visit the show on his tour of the Northwest.

Idaho carried off the chief honors in the carload competition, the Knapp entry winning first on Wagener, also



White Salmon display at the Fourth National Apple Show, Spokane, November 23 to 30, 1911



Exhibit made by Mr. Taggard under the auspices of the Waitsburg Commercial Club, Waitsburg, Washington, at the Fourth National Apple Show, Spokane, November 23-30, 1911

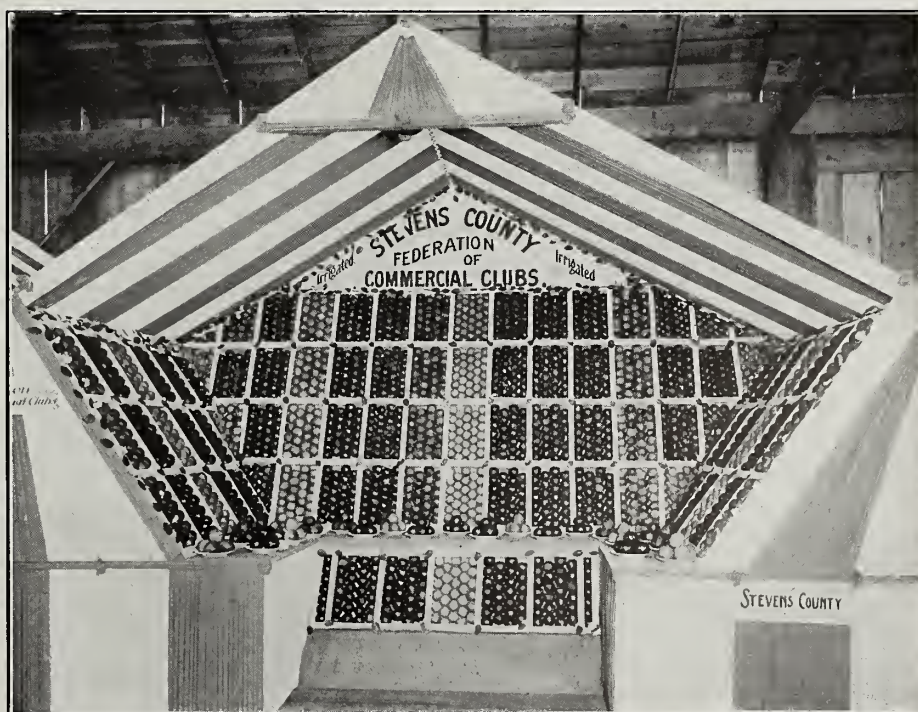
a prize of \$500 for the best pack and the International Apple Shippers' Association trophy for commercial pack and grade. The Stowe entry, also from Idaho, was second on Wagener. The Oregon entry won first on Yellow Newtown. Washington was first with cars of Gano and Winesap and mixed varieties, also the sweepstakes for taking the largest number of prizes in all contests except plates. The winners in the other carload contests are given in the accompanying official list of awards. W. L. Dresbach of Mosier, Oregon, won the world championship and a prize of \$100 in the packing contest on November 30, scoring 96¼ out of a possible 100 points, defeating Charles Mason of Spokane, last year's champion, who scored 93½ points as second and won \$50. Earl Benson of Spokane was third with 93 points and won \$25. Benson packed four boxes in 19½ minutes, but was low on the condition of the pack; Dresbach used 22½ minutes, while Mason required 28½ minutes. The entrants: Theron C. Bangs, Cashmere, Washington; H. E. Perry, Hood River, Oregon; Henry Dillon and E. C. Greene, North Yakima, Washington; H. A. Briggs, Victor, Montana; Ralph W. Ordway, White Salmon, Washington; R. M. Garvin, Cheney, Washington; James W. Saul, Sunnyside, Washington; Ray Dull, Wenatchee, Washington; J. S. McPherson, Chelan, Washington; J. C. Goadner, Toppenish, Washington; A. McDonald and A. Steiner, Moscow, Idaho; Frances Harpole, Wilbur, Washington; E. Stark, Garfield, Washington; Harry Nelson, Chester, Washington; W. L. Dresbach, Mosier, Oregon; Roger Hortop, Alcott Station, Colorado; Earl

Benson, Charles Mason, Ben S. Candell, S. F. Perkins, H. W. Torrence, C. E. Anderson, Irvin Brunner and Carl E. Bloom, Spokane. J. M. Carroll of Mosier, Oregon, was presiding judge. The spraying, pruning and grafting demonstrations by the horticultural department of the State College of Washington, under the direction of Professor A. L. Melander, entomologist, were attended by many, as were also the daily lectures in the main audi-

torium. The spraying machine trials also interested growers from all parts of the country. The free packing school was largely attended, some of the students being present the entire series.

From the spectator's viewpoint the show was more artistic than any of the previous exhibitions, care being given to the display of the fruit as well as descriptions in printed text and pictures of the districts in which it was grown. Another innovation were the exhibits by Indians in Northern Idaho. Chief Isaac, though blind for years, showed that the redman can grow apples through intelligently directed effort. He was among the prize winners. The Northern Pacific Railway Company's commissary department had an exhibit, eight by sixteen feet, showing a model orchard home made of sugar. The coloring was true to life. The entertainment features were interesting. Reemer's National Apple Show band and Bowen's American band, each of thirty pieces; the Piper Highlanders and Hendrick's Bingville band supplied the music. The vaudeville department was headed by Mlle. Christine LaBaraque, soprano, and Albert Nightingale, cornet soloist, and included Billy Silvers and the Renner Sisters, the four Bonnells, the Van Dalles Sisters, Mason, Wilbur and Jordan, the Spokane Elks' quartette and J. Overton. The musical feature was the concert by six hundred and eighteen musicians, representing twenty-seven bands in the Inland Empire. The band competition was won by Lewiston, Idaho. Professor Karl Baumgaertel directed the winning band. Sixty thousand persons witnessed the parade in which all the bands appeared in full uniform.

The formal organization of the Central Fruit Marketing Exchange was completed at the apple show on Novem-



Stevens County Federation of Commercial Clubs display, winning the gold medal banner for the highest scoring fruit grown on non-irrigated land, at Fourth National Apple Show, Spokane, 1911



Pullman, Washington, exhibit at Fourth National Apple Show, Spokane, November 23-30, 1911

ber 29. L. E. Meacham, traveling representative of the committee of eleven, headed by W. H. Otis of Peshastin, Washington, at the Walla Walla convention last February, who was installed as secretary, has opened a bureau in the Hutton Building, Spokane. It is announced that the exchange will handle the 1912 crop, its efforts being confined to Washington, Oregon, Idaho and Montana. Besides Mr. Otis, the trustees are: H. C. Atwell, Forest Grove, Oregon; J. F. Forbis, Dilley, Oregon; Sherwood Williams, LaGrande, Oregon; H. D. Lamb, Milton, Oregon; W. M. Nelson, North Yakima, Washington; W. H. Paulhamus, Puyallup, Washington; Miles Cannon, Weiser, Idaho; W. B. Lanham, Clarkston, Washington, and W. J. Tiedt, Darby, Montana.

Miss Laura Breese, instructor, and a bevy of young women students in the department of home economies at the University of Idaho, taught housewives how to prepare apples as food in 209 different ways. The demonstrations were witnessed by 20,000 men and women, and as many more were supplied with viands. The University of Oregon probably will send its instructor in domestic science and a number of students to Spokane for the 1912 show.

The exhibitors expressed their appreciation of the arrangements by presenting Secretary Rice a set of resolutions on the closing day and on all sides were heard the most complimentary remarks over the manner in which the show was handled. Chief Judge Sinsel said the show was the best of the four so far given, and every exhibitor promised to return for the fifth exhibition. "Mike" Horan of Wenatchee, winner of the sweepstakes at the 1908 show, said he will have one or two earloads, and it is expected that other parts of Wash-

ington, Oregon, Idaho, Montana and British Columbia will take advantage of the next show.

The detailed prize list, showing the awards made by the board of judges, follows:

Awards in Carload Contests.—Rome Beauty: R. P. Wright, Chelan, Washington, first; score 9,461½ of possible 10,000 points, \$300 and gold medal banner; also Acme orchard harrow, donated by the John Deere Plow Company of Portland; no second. Spitzenberg: Keystone Fruit Company, Entiat, Washington; no competition. Wagener: George S. Knapp, Moscow, Idaho, first; score 9,701½, \$300 and gold medal banner; also extension frame orchard disc harrow, donated by the Parlin-Orendorf Plow Company, Portland; George M. Stowe, Coeur d'Alene, Idaho, second; score 9,477½, \$100 and silver medal banner. Winesap: Keystone Fruit Company, Entiat, Washington, \$300, gold medal banner and five drums of Ortho brand lime-sulphur solution; no competition. Yellow Newtown: Houston Brothers, Talent, Oregon, first; \$300, gold medal banner and five drums of Ortho brand lime-sulphur

solution; did not compete on pack. Any standard winter variety not mentioned in the carload contests: Keystone Fruit Company, Entiat, Washington, car of Gano, first; \$300, gold medal banner and 100-pound drum Electro brand dry powder arsenate of lead, donated by the Vreeland Chemical Company of New York, through the Charles H. Lilly Company, agents, Seattle and Portland; no competition. For the best mixed carload of any standard winter varieties, each variety to consist of at least 50 boxes: H. S. Simmons, Wenatchee, Washington, first; score 9,585½; \$300 and gold medal banner, also five drums of Ortho brand lime-sulphur solution; J. Rosenhaupt & Sons, Spokane, second; score 8,157; 100 and silver medal banner. For the best packed carload exhibit of all carloads entered in competition: George S. Knapp, Moscow, Idaho; score 1,846½ on a basis of 2,000 for perfect; \$500 and gold medal banner, also five drums of Ortho brand lime-sulphur solution. For the best commercially packed and graded carload of all entered in competition for the International Apple Shippers' Association trophy: George S. Knapp, Moscow, Idaho; score 9,701½ on a basis of 10,000. For the most artistically decorated carload entered in competition: J. Rosenhaupt & Sons, Spokane, \$200. For the carload scoring highest on condition of all carloads entered in competition: George M. Stowe, Coeur d'Alene, Idaho; score 1,919 on a basis of 2,000 for perfect; prize a salmon spray pump with attachments, by the Deming Company, Salem, Ohio. Sweepstakes to the exhibitor winning the greatest number of prizes in all contests except plates: Keystone Fruit Company, Entiat, Washington; prize 100 pounds of arsenate of lead, donated by the Dow Chemical Company of Midland, Michigan. No entries were received in the Jonathan and McIntosh Red contests.

Original and Attractive Displays.—For the most original and attractive display made by a district, association, lodge, society, county or union, comprising five or more persons: Otis Orchards (Washington) Commercial Club, first, \$200; second, Spokane Aerie No. 2, Fraternal Order of Eagles, \$100; added premium, a year's subscription to "Better Fruit," donated by E. H. Shepard, Hood River, Oregon; Pullman (Washington) Chamber of Commerce, Otis Orchards (Washington) Commercial Club, Spokane Aerie Fraternal Order of Eagles and Columbia Valley Commercial Club of Hunters, Washington. For the most original and attractive display made by an individual: Walter O. Brown, Spokane, first, \$200 and Pearson loving cup, donated by J. C. Pearson Company of Boston, through A. C. Bulofson, Pacific Coast agent, San Francisco; Miss Fanny Break, Spokane, second, \$100; bonus purses of \$50 each, W. C. Muldrow, Okanogan, Washington; Mrs. J. S. Fisher, Spokane; S. F. Wilson, Spokane; Mrs. F. T. Dodge, Kiesel, Washington; Edith A. Proudfit, Fairfield, Washington; year's subscription to "Better Fruit," donated by E. H. Shepard, Hood River, Oregon; W. C. Muldrow, Okanogan, Washington; Walter O. Brown, Spokane; Miss Fanny Break, Spokane; Mrs. J. S. Fisher, R. F. D. 2, Spokane; S. F. Wilson, Spokane; Mrs. F. T. Dodge, Kiesel, Washington, and Edith A. Proudfit, Fairfield, Washington.



Cashmere Commercial Club display, winning the first prize of \$100 and gold medal banner, at the Fourth National Apple Show, Spokane, Washington, November 23 to 30, 1911

The Ten-Box Contest.—Arkansas Black: Keystone Fruit Company, Entiat, Washington, first; score 95½; \$40 and a Monarch sprayer outfit with attachments, donated by the Goulds Manufacturing Company, Seneca Falls, New York. Baldwin: R. P. Wright, Chelan, Washington, first; score 87¾; \$40 and an orchard ladder, donated by the Orchard Ladder and Manufacturing Company, St. Johns, Oregon. Black Ben Davis: Keystone Fruit Company, Entiat, Washington, first; score 85; \$40 and 1,000 Black Ben trees, donated by Stark Brothers' Nurseries and Orchards Company, Louisiana, Missouri. Delicious: J. H. Garrett, Wenatchee, Washington, first; score 85; \$40 and a barrel of Crest spray, donated by Crest Chemical Company of Seattle, also two drums of Ortho brand lime-sulphur solution, donated by the California Spray Chemical Company, Watsonville, California; H. B. Farwell, Wenatchee, Washington, second; score 84½; \$20. Grimes Golden: John Bengel, Spokane, Washington, first; score 97; \$40 and 100-pound keg Triangle brand of arsenate of lead, donated by A. B. Ansbacher & Company, New York, also package of Black Leaf 40, donated by the Kentucky Tobacco Product Company, Louisville, Kentucky. Jonathan: G. Bedtelyon, Otis Orchards, Washington, first; score 94¾; \$40 and an orchard disc harrow, donated by the International Harvester Company of America; H. B. Farwell, Wenatchee, Washington, second; score 83½; \$20. Northern Spy: John Bengel, Spokane, first; score 95¼; \$40 and Fitz-All sprayer, donated by the H. L. Hurst Manufacturing Company, Canton, Ohio; F. G. Fauquier, Needles, British Columbia, second; score 91; \$20 and two drums of Ortho brand lime-sulphur solution, donated by the California Spray Chemical Company, Watsonville, California. Rhode Island Greening: R. P. Wright, Chelan,



Display made by the Spokane Valley, winning second prize of \$100 and silver medal banner, at the Fourth National Apple Show, Spokane, November 23-30, 1911

Louisville, Kentucky; J. Rosenhaupt & Sons, Spokane, second; score 84; \$20 and package of Black Leaf 40, donated by the Kentucky Tobacco Product Company, Louisville, Kentucky. Winter Banana: B. E. Schmidt, Opportunity, Washington, first; score 96¾; Beck's Great Western triplex pump, donated by the Beck Sprayer Company, Lansing, Michigan, also two drums Ortho brand lime-sulphur

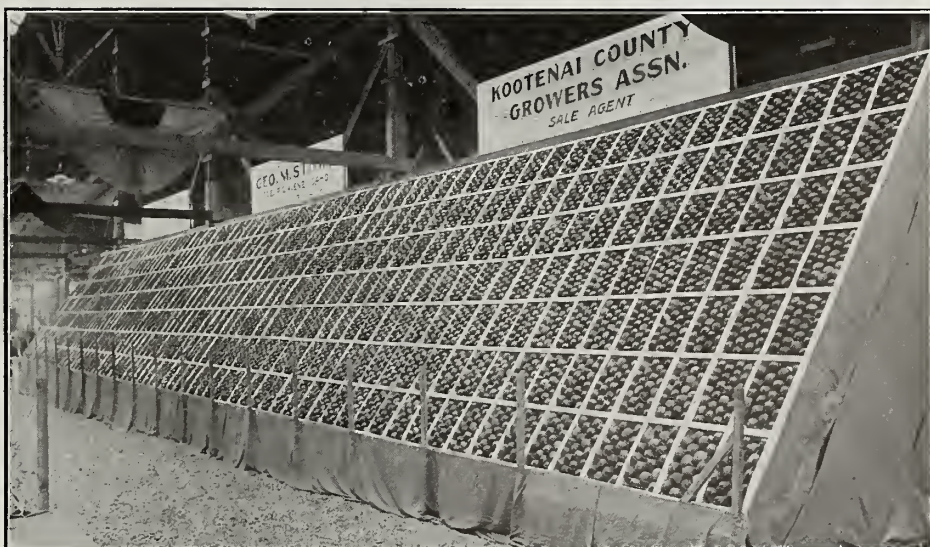
solution, donated by the California Spray Chemical Company, Watsonville, California; A. J. Gage, Mica, Washington, second; score 94; \$20. Winesap: Keystone Fruit Company, Entiat, Washington, first; score 96¾; \$40 and 500 Winesap trees, donated by the Yakima Valley Nursery Company, Toppenish, Washington. Yellow Newtown: Houston Brothers, Talent, Oregon, first; score 99¾; \$40 and a Hardie twin cylinder spray pump with attachments, donated by the Hardie Manufacturing Company, Portland, Oregon, also two drums of Ortho brand lime-sulphur solution, donated by the California Spray Chemical Company, Watsonville, California; R. P. Wright, Chelan, Washington, second; score 83½; \$20. Delicious: Henry B. Miller, Chelan, Washington, first; score 97¾; 1,000 Stark's Delicious trees, donated by Stark Brothers' Nurseries and Orchards Company, Louisiana, Missouri. King David: B. E. Schmidt, Opportunity, Washington, first; score 93½; 1,000 Stark's King David trees, donated by Stark Brothers' Nurseries and Orchards Company, Louisiana, Missouri. Winners of first prizes also each received a fruit gatherer, donated by J. H. Ogburn, Wenatchee, Washington.

The Five-Box Contests.—Black Twig: Keystone Fruit Company, Entiat, Washington, first; score 85½ of possible 100; \$25 and 150 Elberta peach trees, donated by the German Nurseries and Seed Company, Beatrice, Nebraska; no second. Ben Davis: H. S. Simmons, Wenatchee, Washington, first; score 89¾; \$25 and 50 Yellow Newtown, 50 Spitzenberg and 25 Winter Banana trees, donated by the Lafayette Nurseries Company, Lafayette, Oregon, also one drum of Ortho brand lime-sulphur solution; F. G. Fauquier, Needles, British Columbia, second; score 75; \$15. Delicious: R. P. Wright, Chelan, Washington, first; score 94; \$25 and 250 Rome Beauty trees, donated by Milton Nursery Company, Milton, Oregon; B. W. Graybill, R. F. D. 7, Spokane, second; score 93½; \$15 and 250 Wagener trees, donated by the Milton Nursery Company, Milton, Oregon. Gravenstein: James Spiers, Kaslo, British Columbia, first; score 97¼; \$25 and 500 Jonathan trees, donated by Northwest

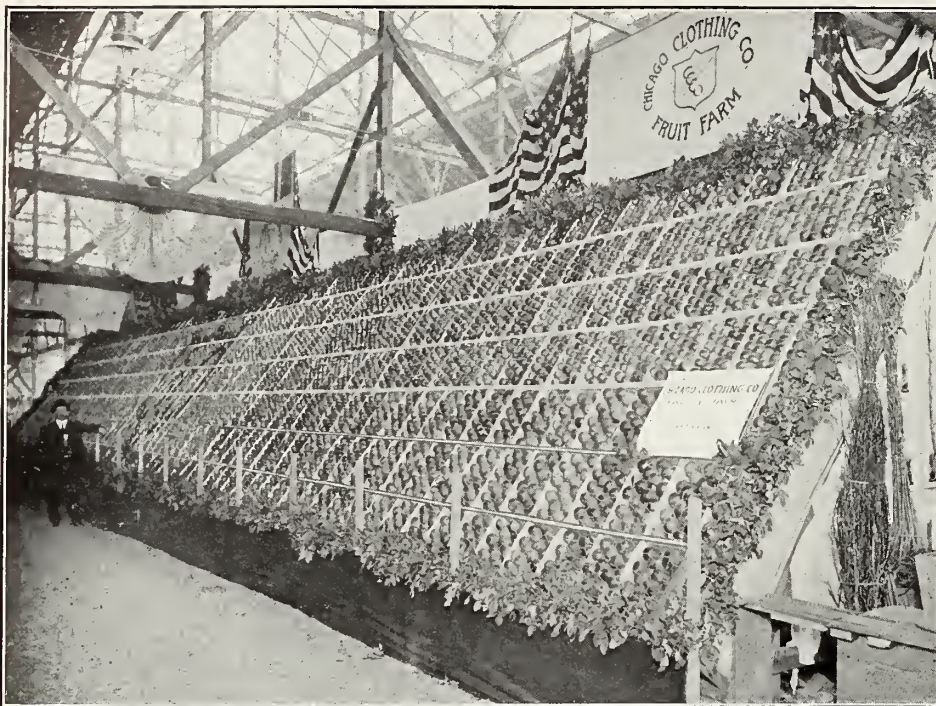


Best carload of Newtowns, awarded first prize of \$300 and gold medal banner, exhibited by Houston Brothers, Talent, Oregon, at the Fourth National Apple Show, Spokane, November, 1911

Washington, first; score 95; \$40 and 150 trees, donated by the Hood River Standard Nursery Company, Hood River, Oregon, also two drums of Ortho brand lime-sulphur solution, donated by the California Spray Chemical Company, Watsonville, California. Rome Beauty: R. P. Wright, Chelan, Washington, first; score 99¼; \$40 and an improved orchard machine, donated by the Light Draft Harrow Company, Marshalltown, Iowa; Keystone Fruit Company, Entiat, Washington, second; score 99; \$20. Spitzenberg: Keystone Fruit Company, Entiat, Washington, first; score 96¾; \$40 and 200 apple trees, 250 peach trees, 50 cherry trees, donated by the Quaker Nurseries Company, Salem, Oregon, also two drums of Ortho brand lime-sulphur solution, donated by the California Spray Chemical Company, Watsonville, California. Stayman Winesap: Burrill Orchard Company, North Yakima, Washington, first; score 99¼; \$40 and 400 No. 1 Wagener apple trees (or winner's choice), donated by the Van Holderbeke Nursery Company, Spokane, also a package of Black Leaf 40, donated by the Kentucky Tobacco Product Company, Louisville, Kentucky; Keystone Fruit Company, Entiat, Washington, second; score 97¼; \$20 and 100 trees, donated by the Van Holderbeke Nursery Company, Spokane, also a package of Black Leaf 40, donated by the Kentucky Tobacco Product Company, Louisville, Kentucky. Wagener: W. J. Enright, Chester, Washington, first; score 99¼; \$40 and 500 Yellow Newtown trees, donated by the Washington Nursery Company, Toppenish, Washington, also a package of Black Leaf 40, donated by the Kentucky Tobacco Product Company,



Carload of Wagners exhibited by George M. Stowe, Coeur d'Alene, Idaho, winning second prize of \$100 and silver medal banner, at the Fourth National Apple Show, Spokane, November, 1911



Carload winning first prize of \$200 for the most artistic decoration, exhibited by Chicago Clothing Company Fruit Farm, J. Rosenhaupt & Son, Spokane, Washington, at Fourth National Apple Show, Spokane, November 23 to 30, 1911

Nursery Company, North Yakima, Washington, also one drum of Ortho brand lime-sulphur solution, donated by the California Spray Chemical Company, Watsonville, California; no second. Jonathan: M. Steuart, Summerland, British Columbia, first; score 98; \$25 and 50 Jonathan trees, donated by the Northern Nurseries Company, Chewelah, Washington, also one drum Ortho brand lime-sulphur solution, donated by the California Spray Chemical Company, Watsonville, California; G. I. Evans, Wenatchee, Washington, second; score 91½; \$15 and 25 Jonathan trees, donated by the Northern Nurseries Company, Chewelah, Washington. King David: B. E. Schmidt, Opportunity, Washington, first; score 88; \$25 and Hydraplex spray pump with attachments, donated by the E. C. Brown Company, Rochester, New York, also one drum of Ortho brand lime-sulphur solution, donated by the California Spray Chemical Company, Watsonville, California; no second. Rome Beauty: John Scott, Wenatchee, Washington, first; score 96½; \$25 and 500 Houghton gooseberry, donated by F. W. Menckray Crescent Nursery Company, Council Bluffs, Iowa; H. W. Greenburg, Hillyard, Washington, second; score 92½; \$15. Spitzenberg: White Salmon Fruit Company, White Salmon, Washington, first; score 98¼; \$25 and 100 Bing cherry, 100 Elberta peach, 100 Crocker Winter Bartlett pear and 100 Rome Beauty trees, donated by the Richland Nursery Company, Richland, Washington; Maxwellton Orchard, Hood River, Oregon, second; score 96¼; \$15 and 100 Royal Ann cherry trees, donated by the Richland Nursery Company, Richland, Washington. Tompkins King: Doyle and Macdonnell, Willow Point, British Columbia, first; score 95¾; \$25 and 300 McIntosh Red trees, donated by Missoula Nursery Company, Missoula, Montana; no second. Wagener: W. J. Enright, Chester, Washington, first; score 98½; \$25 and 400 apple trees (winner's choice), donated by the Sunnyside Nursery Company, Sunnyside, Washington; John Howard, Otis Orchards, Washington, second; score 95½; \$15. Winesap: Mrs. E. N. Stuart, Wenatchee, Washington, first; score 98½; \$25 and 500 Winesap trees, donated by the Oregon Nursery Company, Orenco, Oregon, also drum of Ortho brand lime-sulphur solution, donated by the California Spray Chemical Company, Watsonville, California; Keystone Fruit Company, Entiat, Washington, second; score 87¾; \$15. White Winter Pearmain: A. E. Knowels, Wenatchee, Washington, first; score 89½; \$25 and 500 Elberta peach trees, donated by the New Haven Nursery Company, New Haven, Missouri; no second. Yellow Bellflower: J. Rosenhaupt & Sons, Spokane, first; score 89; \$25 and 500 Rome Beauty trees, donated by the Vineland Nurseries Company, Clarkston, Washington; no second. Yellow Newtown: Houston Brothers, Talent, Oregon, first; score 99; \$25 and 500 trees (winner's choice), donated by Woodburn Nurseries Company, Woodburn, Oregon; no second. Best five boxes standard winter varieties, each box con-

taining a different variety: G. Bedtelyon, Otis Orchards, Washington, first; score 98¾; \$25 and 500 specially designed panel end apple boxes, donated by the Washington Mill Company, Spokane; J. Rosenhaupt & Sons, Spokane, second; score 94; \$15 and 500 peach boxes, donated by the Washington Mill Company, Spokane. Five boxes scoring highest on condition of all five-box displays which have been sprayed with any brand of arsenate of lead: Houston Brothers, Talent, Oregon, first; score 201, or perfect on condition; silver loving cup, donated by the Merrimac Chemical Company, Boston; no second. First prize winners also each received as a special premium a fruit gatherer, donated by J. H. Ogburn, Wenatchee, Washington.

General District Displays.—Best general collective displays grown on irrigated land shown by commercial club, association, union, county or district: Commercial Club, Cashmere, Washington, first; \$100 and gold medal banner, also 20 copies of the Fruit Grower, St. Joseph, Missouri; Spokane Valley second; \$50

and silver medal banner. Best general collective display of apples grown on non-irrigated land shown by commercial club, association, union, county or district: Kootenai Valley district, Bonners Ferry, Idaho, first; \$100 and gold medal banner; Skamania County, Stevenson, Washington, second; \$50 and silver medal banner. The Federation of Commercial Clubs of Stevens County, Washington, received a gold medal banner for the highest scoring fruit grown on non-irrigated land.

State Group Displays.—Middle West special, one barrel or three boxes, any variety; competition limited to entries from Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota and Wisconsin: Jewell Nursery Company, Lake City, Minnesota, first; score 90 of possible 100; \$40 and Palmer fruit bucket, donated by the Palmer Bucket Company, Hood River, Oregon, also 200 Bolton orchard heaters, donated by the Frost Prevention Company, San Francisco. Southern States special, one barrel or three boxes, any variety; competition limited to entries from Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia: J. A. Farquharson, Guthrie, Oklahoma, first; score 99¾; \$40 and Palmer fruit bucket; Sparger Orchard Company, Greenboro, North Carolina, second; score 98¾; \$20 and Palmer fruit bucket. Western States special, best three boxes or one barrel, any variety; competition limited to Washington, Oregon, Idaho, Montana, California, Colorado, Utah and Nevada: W. J. Enright, Chester, Washington, first; score 99½; \$40 cash and lightning fruit picker, donated by the Lightning Fruit Picker Company, St. Louis, Missouri; a Palmer fruit bucket, also 100 Troutman orchard heaters, donated by the Round Crest Orchard Heater Company of Denver, Colorado; O. B. Brown, Wenatchee, Washington, second; score 98¾; \$20 cash and a Palmer fruit bucket, donated by the Palmer Bucket Company, Hood River, Oregon. Foreign Country special, best three boxes or one barrel, any variety; competition in this contest open to entries from any province, dominion, district or territory outside of the United States: M. Steuart, Summerland, British Columbia, first; score 99¾; \$40 cash, five drums of Ortho brand lime-sulphur solution, donated by the California Spray Chemical Company, Watsonville, California, also a Palmer fruit bucket, donated by the Palmer Bucket Company, Hood River, Oregon; Nelson Brothers, Summerland, British Columbia, second; score 97; \$20 cash and a Palmer fruit bucket, donated by the Palmer Bucket Company, Hood River, Oregon. The winners of first and second prizes also received a year's subscription to "Better Fruit."

Single-Box Contests.—Arkansas Black: William S. Rawn, Prosser, Washington, first; score 98; \$10 and Detroit Shear Company's pruner; L. H. Tichenal, Cashmere, Washington, second; score 97; \$5 and pruner. Baldwin: J. G. Garden, Otis Orchards, Washing-

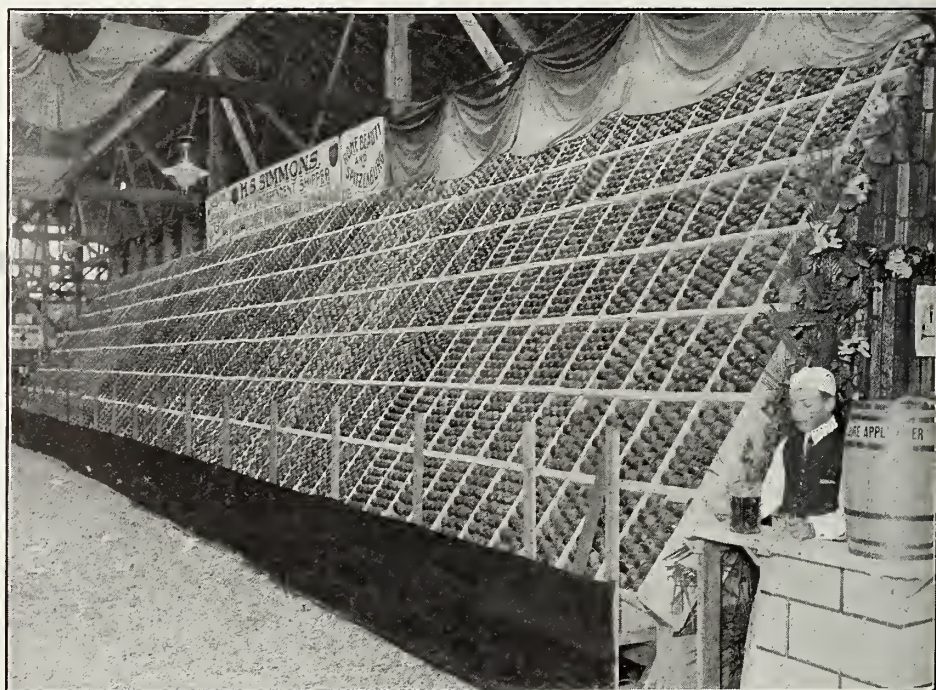


Exhibit of mixed carload of any standard winter varieties, each variety consisting of at least fifty boxes, made by H. S. Simmons, Wenatchee, Washington, winning first prize of \$300 and gold medal banner, at the Fourth National Apple Show, Spokane, Washington, November, 1911

ton, first; score 96; \$10 and Detroit Shear Company's pruner; R. P. Wright, Chelan, Washington, second; score 95½; \$5 and Detroit Shear Company's pruner. Ben Davis: H. S. Simmons, Wenatchee, Washington, first; score 97½; \$10 and star tree pruner, donated by Carroll R. Tiffany, Franklin Forks, Pennsylvania; F. C. Fauquier, Needles, British Columbia, second; score 93½; \$5 and Star tree pruner, donated by Carroll R. Tiffany, Franklin Forks, Pennsylvania. Black Twig: Maxwellton Orchard, Hood River, Oregon, first; score 97½; \$10 and Dandy tree pruner, donated by Carroll R. Tiffany, Franklin Forks, Pennsylvania; John Scott, Wenatchee, Washington, second; score 97½; \$5 and Dandy tree pruner, donated by Carroll R. Tiffany, Franklin Forks, Pennsylvania. Cox Orange Pippin: A. Scott, Willow Point, British Columbia, first; score 91; \$10 and Tiffany pruner; no second. Delicious: Henry B. Miller, Chelan, Washington, first; score 95; \$10 and pruner, donated by Detroit Shear Company, Detroit, Michigan; Mrs. W. C. Talmadge, Sharon, Washington, second; score 94½; \$5 and pruner, donated by Detroit Shear Company. Gravenstein: M. Steuart, Summerland, British Columbia, first; score 99½; \$10 cash; no second. Gano: M. Steuart, Summerland, British Columbia, first; score 98½; \$10 cash; Keystone Fruit Company, Entiat, Washington, second; score 98½; \$5 cash. Grimes Golden: Nelson Brothers, Summerland, British Columbia, first; score 97¾; \$10 and Lightning Fruit Company's picker; M. Steuart, Summerland, British Columbia, second; score 97½; \$5 cash. Golden Russet: F. G. Fauquier, Needles, British Columbia, first; score 89¼; \$10 cash; no second. Gloria Mundi: J. C. Ristau, Route 3, Spokane, Washington, first; score 91; \$10 cash; E. P. Palmer, Viola, Idaho, second; score 80; \$5 cash. Jonathan: O. B. Brown, Wenatchee, Washington, first; score 99; \$10 and 500 Jonathan trees, donated by Stark Brothers' Nurseries and Orchards Company, Louisiana, Missouri; M. Steuart, Summerland, British Columbia, second; score 98¾; \$5 cash. King David: B. E. Schmidt, Opportunity, Washington, first; score 97½; \$10 and drum Ortho brand lime-sulphur solution, donated by the California Spray Chemical Company, Watsonville, California; J. W. Nipple, Greenacres, Washington, second; score 96¾; \$5 cash. McIntosh Red: L. C. Woodworth, Summerland, British Columbia, first; score 98; \$5 and Detroit Shear Company's pruner; no second. Northern Spy: F. G. Fauquier, Needles, British Columbia, first; score 98; \$10 and Kansas pruning knife, donated by the International Tool Company, Detroit, Michigan; J. J. Campbell, Willow Point, British Columbia, second; score 96¾; \$5 and Kansas pruning knife. Rhode Island Greening: F. R. Cartrell, Summerland, British Columbia, first; score 97¼; \$10 and Kan-

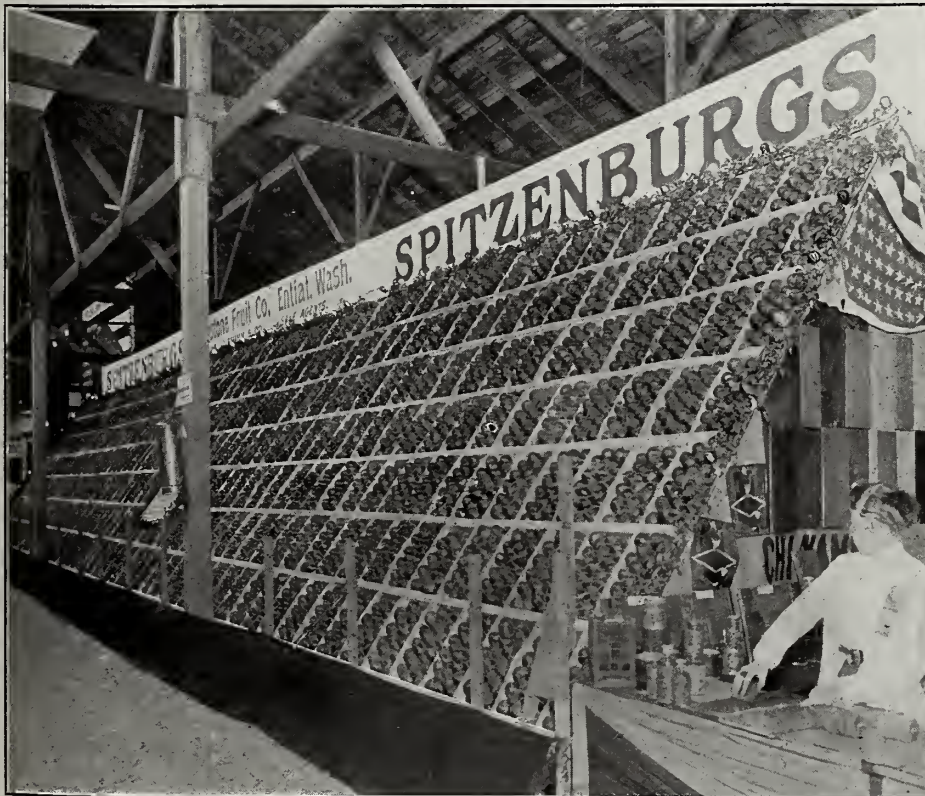


Carload display of Rome Beauties, awarded first prize of \$300 and gold medal banner, exhibited by R. P. Wright, Chelan, Washington, at Fourth National Apple Show, Spokane, November, 1911

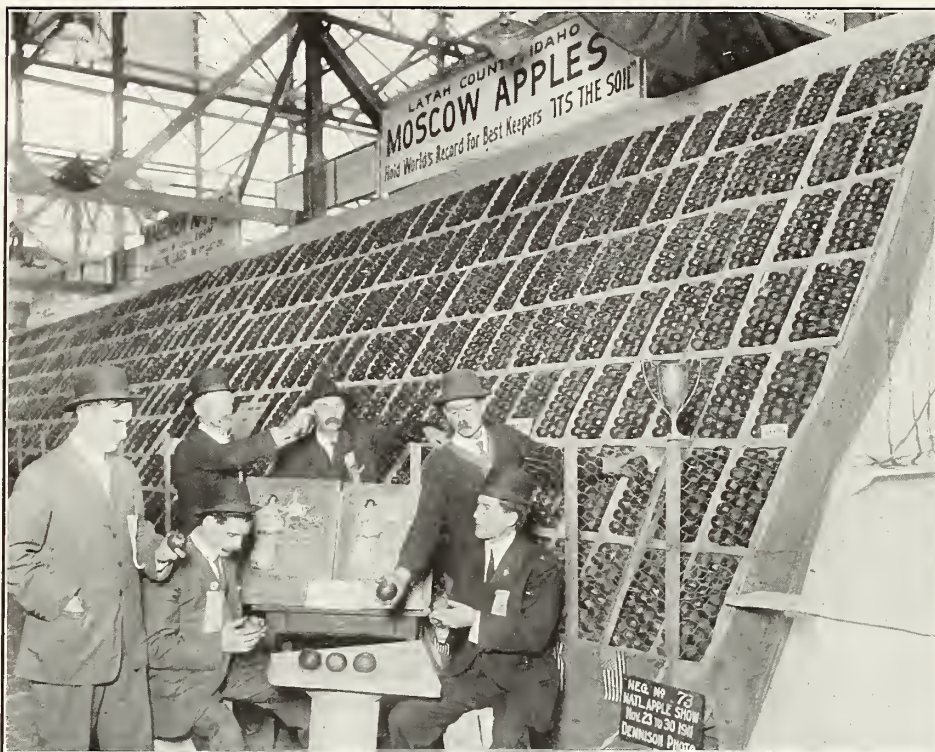
sas pruning knife; Mrs. E. L. Weger, second; score 95; \$5 and Kansas pruning knife. Rome Beauty: John Howard, Otis Orchards, Washington, first; score 98¾; \$10 and orchard saw, donated by Detroit Shear Company, Detroit, Michigan; H. B. Graybill, 1515 Knox Avenue, Spokane, Washington, second; score 97; \$5 and orchard saw. Senator: R. P. Wright, Chelan, Washington, first; score 96; 500 Senator apple trees, donated by Stark Brothers' Nurseries and Orchards Company, Louisiana, Missouri; Keystone Fruit Company, Entiat, Washington, second; score 92¼; same as first.

Spitzenberg: M. Steuart, Summerland, British Columbia, first; score 99; \$10 cash; Maxwellton Orchard, Hood River, Oregon, second; score 98; \$5 cash. Stayman Winesap: M. Steuart, Summerland, British Columbia, first; score 98¾; \$10 and 500 Stayman Winesap trees, donated by the Stark Brothers' Nurseries and Orchards Company, Louisiana, Missouri; Burrill Orchard Company, North Yakima, Washington, second; score 96¾; \$5 cash. Tompkins King: F. G. Fauquier, Needles, British Columbia, first; score 96¾; \$10 cash; J. J. Campbell, Willow Point, British Columbia, second; score 96½; \$5 cash. Wagener: W. J. Enright, Chester, Washington, first; score 98½; \$10 cash; G. Bloomfield, Summerland, British Columbia, second; score 97½; \$5 cash. Winesap: N. S. Titchenal, Cashmere, Washington, first; score 98¼; \$10 and 100 Winesap apple trees, donated by the Carlton Nursery Company, Oregon, also one drum Ortho brand lime-sulphur solution, donated by California Spray Chemical Company, Watsonville, California; R. H. Titchenal, Cashmere, Washington, second; score 97½; \$5 cash. Wealthy: C. J. Thomson, Summerland, British Columbia, first; score 99¼; \$10 cash; D. S. Timmons, Creston, British Columbia, second; score 97½; \$5 cash. Winter Banana: T. H. Hart, Cedonia, Washington, first; score 97; \$10 cash and 500 King David trees, donated by Wild Rose Nursery Company, Spokane; W. J. Hart, Cedonia, Washington, second; score 94¼; \$5 and 100 King of Tompkins trees. Yellow Newtown: Maxwellton Orchard, Hood River, Oregon, first; score 99½; \$10 cash; E. M. Peck, White Salmon, Washington, second; score 97¼; \$5 cash. First prize winners also each received a Palmer fruit bucket.

Home-Made By-Products.—Unflavored apple marmalade: Mrs. George H. Farwell, Wenatchee, Washington, first, \$10 cash; Miss Elizabeth Spellum, Spokane, Washington, second, \$5 cash. Unflavored crab apple jelly: Mrs. A. C. Dukelow, Spokane, Washington, first, \$10 cash; Miss R. E. Stewart, Spokane, Washington, second, \$5 cash. Unflavored preserved apples: Mrs. J. W. Lipe, Clarkston, Washington, first, \$10 cash; Mrs. E. L. Weger, Spokane, Washington, second, \$5 cash. Unflavored apple butter: Mrs. J. W. Lipe, Clarkston, Washington, first, \$10 cash; Mrs. H. A. Platt, Como, Montana, second, \$5 cash. Pickled apples: Mrs. Joseph Break, Spokane, general delivery, first, \$10 cash; Mrs. J. W. Lipe, Clarkston, Washington, second, \$5 cash. Best home-made apple cider: L. T. Farley, R. F. D. 3, Spokane, first, \$10; John Bengel, Spokane, second, \$5. Best unflavored home-made apple jelly: Mrs. Ola Barnes, Mead, Washington, first, \$10; Mrs. Joseph Break, Spokane, second, \$5. Best home-made apple vinegar: John Bengel, Spokane, first, \$10; Mrs. A. C. Dukelow, Spokane, second, \$5. Best home-made apple relish: Miss R. E. Stewart, Spokane, first, \$10; Mrs. E. L. Weger,



Best carload of Spitzenbergs, winning first prize of \$300 and gold medal banner, exhibited by the Keystone Fruit Company, Entiat, Washington, at the Fourth National Apple Show, Spokane, Washington, November 23 to 30, 1911



Carload display of Wageners, exhibited by George L. Knapp, Moscow, Idaho, winner of grand sweepstakes of \$500 and gold medal banner, also first prize for the best carload of Wageners, \$300, and gold medal banner, at Fourth National Apple Show, Spokane, November 23-30, 1911

Spokane, second, \$5. Best candied apples, home-made: Mrs. E. L. Weger, Spokane, first, \$10; Mrs. Joseph Bream, Spokane, second, \$5. Every exhibitor received a year's subscription to the Northwest Horticulturist, donated by C. A. Tommeson of Tacoma, and winners of first and second prizes also received handkerchiefs and glove boxes filled with confectionery, donated by the Inland Empire Biscuit Company of Spokane.

Factory By-Products.—For the largest display of the greatest variety of factory by-products of the apple shown by an individual, firm or corporation: Spokane Canning Company, Spokane, first, gold medal banner; Wenatchee Ice, Cold Storage and Canning Company, Wenatchee, Washington, second, silver medal banner. Best five apples, any variety, preserved longest without acid or other means except cellars or cold storage: J. D. Taggard, Waitsburg, Washington, gold medal banner. Best new seedling apple produced in the last five years: Thomas J. Jones, Bonners Ferry, Idaho, gold medal banner. Best collection of 50 biggest apples: L. H. Spader, Chelan, Washington, first, weight 76 pounds 10 ounces, \$75 and package of Black Leaf 40, donated by the Kentucky Tobacco Product Company, Louisville, Kentucky; Lorr & Ball, Methow, Washington, second, weight 66 pounds 10 ounces, \$25 cash and package of Black Leaf 40. Biggest five apples: Lorr & Ball, Methow, Washington, first, measured 79% inches, \$25 and package of Black Leaf 40; Benjamin H. Thompson, Rifle, Colorado, second, measured 79% inches, \$15 and package of Black Leaf 40. Biggest single apple free from blemish: W. C. Hogenson, Chelan, Washington, first, circumference 16 1/4 inches, \$20 cash; Benjamin H. Thompson, Rifle, Colorado, second, circumference 16 1/4 inches, \$10 cash. Best apple pie delivered to the National Apple Show: Miss Anna Hoffman, Spokane, first, \$10 and silk umbrella; Miss Anna Niebuhr, Spokane, second, \$5 and glove box. Most practical and economical new appliance for use in planting, cultivating, caring for, picking, packing or marketing apples: Manville Fruit Company, Boise, Idaho, first, gold medal design. Best photograph on an apple: Miss Fanny Break, Spokane, first, \$20; Mrs. F. T. Dodge, Kieseling, Washington, second, \$10. Most unique lettered or figured design on an apple: Miss Fanny Break, Spokane, first, \$20; Mrs. F. T. Dodge, Kieseling, Washington, second, \$10.

First Prizes on Plates.—Class A: Akin Red, Thomas J. Jones, Bonners Ferry, Idaho; Alexander, M. O. Shepard, Lakeside, Washington; American Golden Russet, W. J. Enright, Chester, Washington; Apple of Commerce, Henry B. Miller, Chelan, Washington; Arkansas Black, L. H. Titchenal, Cashmere, Washington. Class B: Baldwin, R. P. Wright, Chelan, Washington; Babbitt, R. P. Wright, Chelan, Washington; Ben Davis, W. G. Hansell, Free-water, Oregon; Ben Hur, R. P. Wright, Chelan, Washington; Beach, W. A. Davis, Bonners

Ferry, Idaho; Belmont Waxen, O. A. Hoag, Chelan, Washington; Bismarck, J. M. Tesarik, Kieseling, Washington; Black Ben Davis, A. E. Konwels, Wenatchee, Washington; Black Twig, A. E. Knowels, Wenatchee, Washington; Blue Pearmain, H. S. Simmons, Wenatchee, Washington; Baltimore, L. H. Titchenal, Cashmere, Washington; British Columbia, A. Alexander, Kaslo, British Columbia. Class C: Canada Red, F. G. Fauquier, Needles, British Columbia; Twentieth Century, W. H. Heideman, Bonners Ferry, Idaho; Champion, Tony Brown, Copeland, Idaho; Chicago, D. H. Hulsemann, Lakeside, Washington; Cranberry Pippin, M. Steuart, Summerland, British Columbia; Coos River Red, F. C. Johnson, Bonners Ferry, Idaho. Class D: Delaware Red, L. H. Spader, Chelan, Washington; Delicious, R. P. Wright, Chelan, Washington; Domine, R. P. Wright, Chelan, Washington. Class E: English Russet, L. H. Spader, Chelan, Washington. Class F: Fameuse, M. P. McDaniels, Chelan, Washington; Fallwater, Thomas J. Jones, Bonners Ferry, Idaho; Fall Pippin, J. M. Tesarik, Kieseling, Washington. Class G: Greasy Pippin, Chief Isaac, Bonners Ferry, Idaho; Gano, M. Steuart, Summerland, British Columbia; Gideon, Stocks & Jackson, Creston, British Columbia; Gloria Mundi, L. H. Spader, Chelan, Washington; Golden Russet, F. C. Fauquier, Needles, British Columbia; Golden Pippin, William H. Heideman, Bonners Ferry, Idaho; Gravenstein, James Spiers, Kaslo, British Columbia; Grimes Golden, Lorr & Ball, Methow, Washington; German Greening, R. P. Wright, Chelan, Washington. Class H: Hubbardston, R. P. Wright, Chelan, Washington; Hydes King, A. Alexander, Kaslo, British Columbia. Class I: Ingram, R. P. Wright, Chelan, Washington; Iowa Blush, William H. Heideman, Bonners Ferry, Idaho. Class J: Jeniton, L. H. Spader, Chelan, Washington; Jonathan, A. Banderob, Chelan, Washington. Class K: Kentucky Red Streak, J. D. Taggard, Waitsburg, Washington; King of Tompkins County, H. S. Simmons, Wenatchee, Washington; King David, J. W. Nipple, Greenacres, Washington; Kieseling, J. H. Clay, Route 3, Spokane; Kentish Fillbasket, Burrill Orchard Company; North Yakima, Washington. Class M: Maiden Blush, J. Stanger, Mead, Washington; Mann, Roy Laughon, Davenport, Washington; McIntosh Red, M. P. McDaniels, Chelan, Washington; McMahon White, W. W. Farbarche, Bonners Ferry, Idaho; Missouri Pippin, R. P. Wright, Chelan, Washington; Monmouth, W. D. Davis, Bonners Ferry, Idaho; Mother, Roy Laughon, Davenport, Washington; Montgomery, R. P. Wright, Chelan, Washington. Class N: Newtown Spitz, M. P. McDaniels, Chelan, Washington; Northern Spy, R. P. Wright, Chelan, Washington; Northwest Greening, J. Stanger, Mead, Washington. Class O: Ohio Nonpareil, Mrs. C. P. Cleghorn, Bonners Ferry, Idaho; Ontario, C. E. Weeks, Kelowna, British Columbia. Class P: Paragon Winesap, John Carlyle, Lakeside, Washington; Pewaukee, Stocks & Jackson,

Creston, British Columbia. Class R: Rambo Ramsdell Sweet, J. D. Taggard, Waitsburg, Washington; Red Cheek Pippin, John Bengel, Spokane; Rhode Island Greening, Samuel Smith, Port Hill, Idaho; Ribston Pippin, F. G. Fauquier, Needles, British Columbia; Rome Beauty, L. H. Titchenal, Cashmere, Washington; Roxbury Russet, Stocks & Jackson, Creston, British Columbia; Romanite Red, R. P. Wright, Chelan, Washington. Class S: Scott Winter, William H. Heideman, Bonners Ferry, Idaho; Senator, J. S. Shepard, Lakeside, Washington; Shakelford, O. A. Hoag, Lake Chelan, Washington; Smokehouse, J. M. Tesarik, Kieseling, Washington; Smith, J. L. Maxwell, Dryden, Washington; Spokane Beauty, Samuel Smith, Port Hill, Idaho; Spitzenberg, R. P. Wright, Chelan, Washington; Springdale, William H. Heideman, Bonners Ferry, Idaho; Scarlet Pippin, M. Steuart, Summerland, British Columbia; Stayman Winesap, Burrill Orchard Company, North Yakima, Washington; Sutton Beauty, Stocks & Jackson, Creston, British Columbia. Class T: Tolman Sweet, S. B. Russell, Lakeside, Washington. Class U: Utter, R. H. Wall, Boners Ferry, Idaho. Class W: Wagener, W. J. Enright, Chester, Washington; Walbridge, F. G. Fauquier, Needles, British Columbia; Wealthy, R. P. Wright, Chelan, Washington; White Winter Pearmain, John Scott, Wenatchee, Washington; White Bellflower, J. N. Butler & Son, Spokane; Whitney Special, R. P. Wright, Chelan, Washington; Winter Banana, Keystone Fruit Company, Entiat, Washington; Winesap, Tye Fruit Company, Cashmere, Washington; Willow Twig, J. S. Shepard, Lakeside, Washington; Wolf River, J. M. Tesarik, Kieseling, Washington; Winter Russian Bellflower, B. F. Surry, Wenatchee, Washington. Class Y: Yellow Newtown, R. Kieseling, Kieseling, Washington; Yellow Bellflower, Tony Brown, Copeland, Idaho; York Imperial, W. T. Robbins, Mead, Washington.

A CORRECTION

Through an oversight in proofreading a slight error was overlooked in the article entitled "Frost Injury Prevention Methods in the Rogue River Valley," in the November issue of "Better Fruit." On page 29, about the middle of the third column, the sentence beginning, "But if the air moved, etc.," should read as follows: "But if the air moved only 100 feet per minute, or a little more than one mile per hour, the temperature could never rise more than one degree above the temperature of the incoming cold air. At four miles per hour it could rise but one-fourth degree. This would be true only in the outside tree rows, on the side from which the air movement comes. For all the rows beyond the outside row, some of the heat units generated in the first row would be added to the heat generated inside."

Editor Better Fruit:

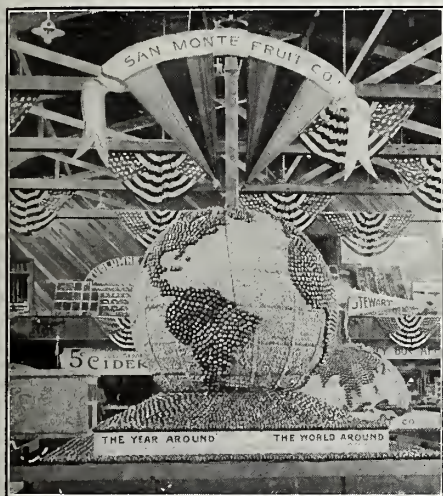
Replying to your favor of the 18th, will say that we believe we have been better able to trace results from our small space in "Better Fruit" than from any other one advertisement, and expect to continue using the space indefinitely. The writer takes almost a personal interest in your publication, feeling that you have built up a splendid periodical and one that is a credit to the entire Pacific Northwest. It is high grade in every way, and in addition to the good class of reading and news matter there is also an absence of the cheap grade of farm paper advertising. With best wishes for your continued success, and with the compliments of the season, we are, yours truly, Washington Mill Company, Spokane.

A year ago "Better Fruit" took up the cost of production of fruit and the idea seemed to spread like wildfire and was taken up by not only horticultural papers, but by all classes of papers throughout the entire country. Our October number, the statistical number, was one of the best that "Better Fruit" has ever issued and contains statistics from every state in the Union, affording the grower much opportunity for thought. It is the intention of "Better Fruit" to keep up this line of work and to publish statistics from time to time as they become available, for the benefit of the fruit industry. The popularity of the October number was evidenced by the splendid and complimentary letters which have been received at our office. The demand for copies of this edition has been unusually large.

The Big California Annual Apple Show at Watsonville

By C. Gentry Redman, Secretary Apple Annual Association

THE Second Annual California Apple Show—an apple show where apples grow—was held in Watsonville October 9-14, 1911, inclusive. Watsonville, the metropolis of the Pajaro Valley, is a cosmopolitan and up-to-date city with a population of 5,000. Mail is distributed to 15,000 residents of the valley by five free rural delivery routes.



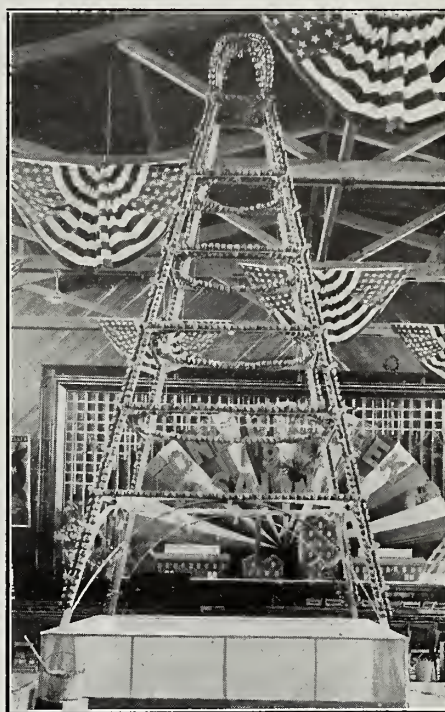
"The World," exhibited by the San Monte Fruit Company, Watsonville, winning the second prize of \$125 for the second best feature exhibit at the California Apple Show, Watsonville, October 9-14, 1911

The Pajaro Valley is the largest individual apple producing section in the world. Last year over 5,000 carloads of green and evaporated apples and apple products were shipped out of the valley, or approximately 3,000,000 packed boxes of apples, representing as many dollars in returns to the growers and packers. Last year the City of Watsonville was bonded in the sum of \$16,000 for the erection of a pavilion 100 by 215 feet, and embracing 35,000 square feet of exhibit space. The capacity of this building was inadequate to hold the large exhibit of apples and apple products. A mammoth tent, 125 by 215 feet, was purchased this year by the Watsonville Apple Annual Association, under whose auspices the show is annually held. In addition to this large space another tent 100 by 186 feet was pressed into service to house the numerous industrial exhibits. All of the exhibits, other than the industrial, were restricted to apples and apple products.

The show was opened Monday afternoon at 2:30 o'clock by Benjamin Ide Wheeler, president of the University of California. He commended the Watsonville Apple Annual Association for the good work it has undertaken in promulgating the apple industry of the whole State of California by the holding of an annual state apple show. Addresses were also made by Hon. James A. Hall, mayor of the City of Watsonville; O. D. Stoesser, president of the California Apple Show; Mr. Frank L. Brown, representing the

Panama-Pacific International Exposition of San Francisco, and G. Aubrey Davidson of the Panama California Exposition of San Diego. Among other things, each speaker emphasized the fact that the holding of an annual apple show was not only benefiting Watsonville and vicinity but the entire state as well by exploiting the apple industry. As an example of what the California Apple Show has already done along this line I will mention one instance which has come to the attention of the writer. Last year several plates of apples were on exhibition from Modoc County. The exhibitor succeeded in carrying off many prizes. The fact that this particular county was awarded several prizes was well advertised, and the result has been that over two thousand acres of apple land has been sold in Modoc County during the past year at an advance of over 200 per cent of its former value. What is true of this district will also be true to a greater or less degree of every undeveloped apple section of the state as their possibilities become known through the medium of a state apple show.

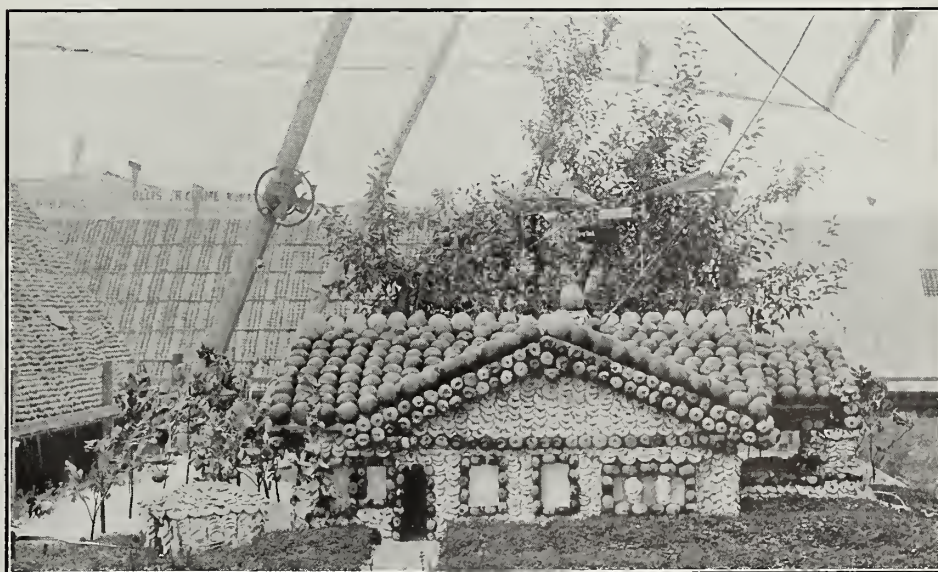
Among the novel and interesting sights at the show were the feature exhibits, representing various notable objects, which were made of green or dried apples. As one entered the spacious pavilion the first of these objects to attract one's attention was the Panama Canal, built entirely by the students of the Watsonville High School. The exhibit was in the form of a relief map, and showed all the mountains, valleys, lakes and locks through which the canal will traverse. The students were successful in carrying off the first prize of \$200, also a beautiful silver trophy, given by the Produce Exchange of Los Angeles. The points on which all the feature exhibits



Reproduction of Electric Tower at San Jose, California, by the San Jose Chamber of Commerce, at California Apple Show, Watsonville, October 9 to 14, 1911

were judged were: 1. Appropriateness to the apple industry. 2. Educational value. 3. Originality of design. 4. Advertising value to the apple annual. 5. Skill or perfection of detail.

"The World," which was the exhibit of the San Monte Fruit Co. of Watsonville, was a very attractive exhibit feature and was awarded second prize of \$125. This exhibit consisted of a large sphere twelve feet or more in diameter on which was a map of the world. Green apples were used to represent the two continents and evaporated apples to represent the oceans. By an



"Spraying in 1923." Bungalow and orchard exhibited by the employees of the California Spray Chemical Company, Watsonville, at the California Apple Show, Watsonville, October 9-14, 1911. Note the airship over the house.



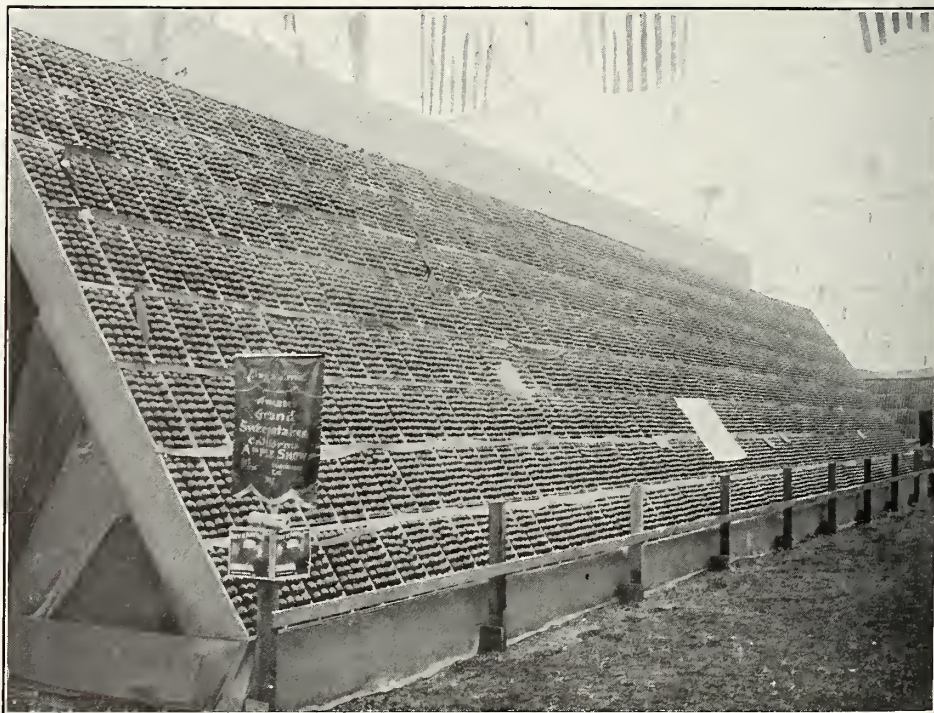
Reproduction of the old Custom House at Monterey, California, one of the oldest historic landmarks in the state, exhibited by the Monterey Chamber of Commerce at California Apple Show, Watsonville, October 9-14, 1911

ingenious mechanical device the large globe was made to revolve very slowly, thus making a very instructive as well as an appropriate exhibit. Among the other feature exhibits were the "Hemisphere," by the Stewart Fruit Co. of Watsonville; "The Santa Cruz Casino," by the Santa Cruz Chamber of Commerce; "Monterey Custom House," by the Monterey Chamber of Commerce; "One Big Week, Salinas, 1912," by the Monterey County Chamber of Commerce; "San Jose Electric Tower," by the San Jose Chamber of Commerce; "Spreckels Sugar Factory," by the owners; "Spraying in 1923," by the employees of the California Spray Chemical Co. of Watsonville; "Y. M. C. A. Building," by the association; "Hotel Appleton," by the Appleton Investment Co. of Watsonville, and "The Merry Widow Hat," by Miss Helen Haynes of Watsonville. Another exhibit which was a novel one was a five-year-old Bellflower apple tree exhibited by Mr. A. Flath of Larkin Valley, near Watsonville. This tree was dug up and taken from his orchard, a distance of seven miles, and transplanted in the tent with its immense crop still intact.

The apple exhibit was one of the largest ever held. There were ten carloads of 600 boxes each, seventeen 100-box lots, ten 50-box lots, twenty-one 25-box lots, forty-nine 10-box lots, one hundred and eleven 5-box lots and ninety-eight 1-box lots, in addition to a number of lots which were not entered for competition, comprising in all about 12,000 commercially packed boxes. In addition to this, there were about 1,000 boxes of apples used to make the feature exhibits. The plate exhibits numbered nearly 1,000, each containing five choice specimens of over 200 varieties of apples. Alaga Bros. of Watsonville, who won the sweepstakes prize last year for the best

carload exhibit, were again successful in winning the coveted prize this year—\$500 in cash, in addition to several valuable trophies and other substantial prizes. Their score was 938 points out of a possible thousand. The variety of apples exhibited by them this year was the Red Pearmain, which is largely used for export purposes to Australia.

The best car of Newtown Pippins in the show was exhibited by Gospodnetich & Zeger of Watsonville, who received a cash prize of \$100 in addition to many other prizes. L. S. Bradley Co. of Watsonville carried off the first prize of \$100 for the best car of Bellflowers, in addition to other prizes.



Sweepstakes car Red Pearmain variety, exhibited by Alaga Brothers, Watsonville, California, at the Watsonville Apple Show, October 9-14, 1911

For the best car of mixed varieties the Loma Fruit Co. of this city received the first prize of \$200 in addition to other valuable prizes. The following won sweepstakes prizes on the several lots mentioned: M. L. Kalich & Co., Watsonville, best 100 boxes Bellflowers; Frank Radovan, Watsonville, best 50 boxes Red Pearmain; Milladin & Moncovich, Watsonville, best 25 boxes Newtown Pippins; Ewell Fruit Co., Santa Cruz, best 10 boxes Jonathans; F. C. Price, Palo Alto (orchard near Watsonville), best 5 boxes Bellflowers; C. G. Redman, Watsonville, best single box Newtown Pippins; F. J. Ralph, Sonora, California, best plate exhibited—Jonathans.

The evaporated apple exhibit, containing nearly ten tons of fruit, attracted much attention. The English Evaporating Co. of Watsonville won the sweepstakes prizes on all of the several lots exhibited. The evaporation of apples is one of the leading industries of the City of Watsonville and the Pajaro Valley. There are at present sixteen evaporators in active operation, with a capacity of 250 carloads of fruit and employing upward of one thousand people. There are also about one hundred packing houses in the city and valley, employing an average of fifty persons at two dollars per day, making a daily payroll of \$10,000 during the fruit season. This added to the daily payroll of the evaporating plants would increase the total daily payroll to \$11,500. Adding to this the daily payroll of the cider, vinegar and canning establishments would bring the grand total daily payroll up to \$12,000, or \$360,000 monthly, for the apple industry. In addition to the above, thousands of dollars are paid for the picking of the fifteen thousand acres of apples in the valley. One of the great

advantages of the California Apple Show is that it is state wide in its scope. Fifteen counties of the state were represented, from Modoc on the north to San Diego on the south. One of these, which possibly attracted more attention than any other, was that of Tuolumne County with its beautiful display of red apples. Walter J. Ralph and A. E. Elsbree of Sonora had charge of this exhibit, and they were awarded a prize of \$50 for the best exhibit grown outside of Santa Cruz and Monterey Counties. They also received a prize of \$10 for the best display of mountain-grown apples.

Rivers Bros. & Co. of Los Angeles were awarded a beautiful silver trophy for the best display of apples from Southern California. They also won a cash prize of \$10 for the best five boxes red apples grown outside Pajaro Valley and its tributaries. The exhibit of the Frank K. Mott Co. of Oakland, represented by Messrs. Francis Smith and H. B. Nichols of Oakland and Albert F. Etter of Briceland, Humboldt County, won the prize of \$10 for the best dis-



Hotel Appleton, Watsonville's new \$100,000 hotel, reproduced in evaporated apples, exhibited by the Appleton Investment Company, at the California Apple Show, Watsonville, October 9-14, 1911

exhibit was that of the Los Angeles Ice & Cold Storage Co. of Los Angeles.

Watsonville. A unique and interesting Five boxes of Newtown Pippins, which were on exhibition at last year's show, were placed in cold storage and kept a year and again exhibited by this firm at the show this year. The fruit was in excellent condition. A large number of factory products were on exhibition, comprising jellies, cider and vinegar. The exhibit of domestic by-products, consisting of apple jelly, apple catsup and canned apples, attracted much attention.

The judges, who worked untiringly on the numberless exhibits, completed their work after six days of constant labor, and the opinion prevailed that their decisions gave general satisfaction. The judges were George E. Rowe of Grand Rapids, Michigan, Professor J. L. Dumas of Pullman, Washington; C. J. Sinsel of Boise, Idaho; A. P. Bateham of Mosier, Oregon, and F. H. Stanton of Hood River, Oregon. For the benefit and convenience of those attending



Looking down one of the long aisles in the tent where earloads were exhibited, California Apple Show, Watsonville, California, October 9-14, 1911

play, all things considered, by any district outside of Santa Cruz and Monterey Counties. Their exhibit was all grown in Humboldt County and attracted much attention. The following counties of the state were represented by exhibits: Santa Cruz, Tuolumne, Modoc, Humboldt, Mendocino, Eldorado, San Bernardino, San Luis Obispo, San Diego, Monterey, Butte, Sonoma, Santa Clara and San Benito, all of which had excellent exhibits. The largest apple in the show was a Wolf River, which weighed twenty-one and one-half ounces, and was exhibited by A. E. Elsbree of Sonora. The largest apple grown in the Pajaro Valley was a Gloria Mundi, exhibited by Beck Bros., and weighed twenty ounces. Both of these exhibitors received a handsome silver trophy as a prize, the former receiving the one donated by the association and the latter the one given by Miss Helen K. Wilder of the "Kipa Aloha" farm, near



Spreckels Sugar Factory, Spreckels, California, the largest beet sugar factory in the world, costing \$3,000,000. Also in the rear is advertising "One Big Week, Salinas, 1912," by the Salinas Chamber of Commerce. California Apple Show, Watsonville, California, October 9 to 14, 1911

the show the management had several booths, presided over by a number of young ladies, where sweet cider was served, and also where small souvenir boxes of apples could be procured. Near at hand, in a well fitted up booth, were representatives of the express company, who made a special rate for those desiring to send a box of apples to their friends. Apple pies and other apple desserts were served by the ladies in the refreshment room, and it was surprising the quantity of pies that were eaten—five hundred being an average day's consumption. Band music by three local bands, and instrumental and vocal music by the Hawaiian singers furnished the visitors abundance of entertainment each evening. The mammoth minstrels of the Los Angeles Produce Exchange furnished one evening's vaudeville entertainment, which consisted of original songs and specialties, which were well received. In addition to this form of entertainment, lectures were delivered by W. S. Ballard of Washington, D. C.; Professor J. L. Dumas of Pullman, Washington; George E. Rowe of Grand Rapids, Michigan; W. H. Volck, Santa Cruz County Horticultural Commissioner; C. J. Sinsel of Boise, Idaho, and A. P. Bateham of Mosier, Oregon, on important questions relating to the apple industry.

A box-making and a packing contest were also instructive features of the show. The prize for the box-making contest was won by William Carter of Watsonville, who made ninety-nine apple boxes and a fraction in sixty minutes. Mr. Archie Bloom was a close



Two prize-winning cars, California Apple Show, Watsonville, October 9 to 14, 1911. The car on the left is a Bellflower carload exhibited by Bradley Brothers, Watsonville, and won first prize for this variety. That on the right is a carload of Newtown Pippins exhibited by Gospo-netiet & Zegor, Watsonville, which won the prize for the best carload of Newtown Pippins exhibited

second, his record being ninety-five boxes and a fraction. Mr. Carter won the gold watch and Mr. Bloom the silver watch, which were presented by the J. C. Pearson Co., "the cement coated nail people." In the packing contest each contestant was required to pack five boxes in fifty minutes. None took up the entire time. Manuel Ranzel was declared the winner and Peter Scurich came in second. A gold and a silver watch was given these contestants, same being presented by Blake, Moffitt & Towne of San Fran-

cisco. In connection with the show were several concessions, and a stroll "Down the Lane" was a sure remedy for the blues. Taking it all in all, the show was a success financially and otherwise. The attendance was in the neighborhood of fifty thousand. Much credit is due President O. D. Stoesser and John E. Gardner, chairman of the finance committee, the directors and others, who by their untiring efforts left no stone unturned to make the California Apple Show of 1911 a huge success.

Indiana Apple Show Held at Indianapolis

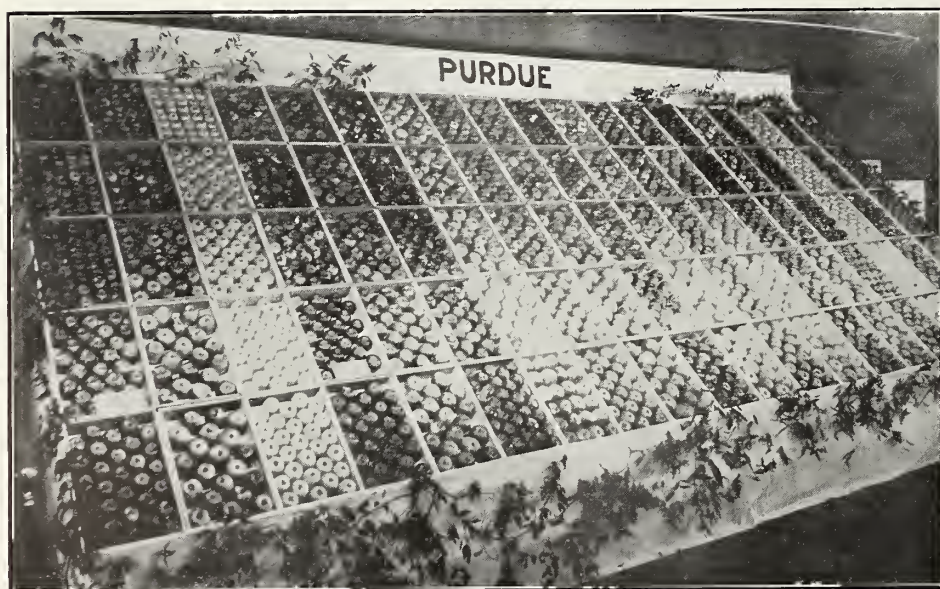
By C. G. Woodbury of Purdue University

HORTICULTURE, and especially apple culture, has lately had a great revival in Indiana. Evidence of this revival was seen at the Indiana Apple Show, which was held in Tomlinson Hall, Indianapolis, on

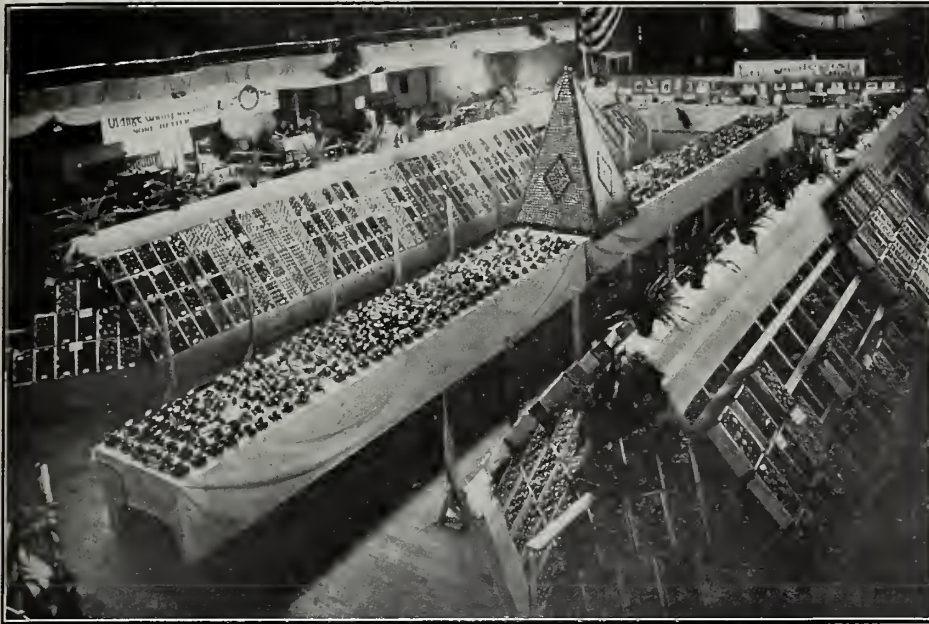
November 6 to 11. The show was held under the auspices of the Indiana Horticultural Society, and was the first one of its size and scope seen in Indiana. The success and magnitude of this first show was so great and the enthusiasm

of the exhibitors so keen that the state society has decided to make it an annual affair, with a permanent commission in charge. Tomlinson Hall is the largest auditorium in Indianapolis, and it was taxed to its utmost to hold the exhibits of this year. The fruit was arranged on two large pitched banks with a flat topped table for plates between. The barrel classes were arranged around the walls of the room. The pitched banks were so devised as to accommodate 1,000 bushel boxes and trays. The plate table held 500 plates and room for about 200 barrels was provided. Every inch of this space was occupied by apple exhibits. The department of horticulture of the Purdue University Experiment Station had a large and attractive exhibit in a special booth, illustrating the results of good orchard management, styles of box packing, etc., in a color scheme of green and white. These colors blended very harmoniously with the rich reds, yellows and greens of the fruit on display. The stage was draped with large American flags and in its center was hung a huge electric sign bearing the legend, "Indiana Apple Show."

The show was a revelation to most visitors. Upon entering the hall, bank



Purdue exhibit at the Indianapolis Apple Show, at Indianapolis, Indiana, November 6 to 11, 1911



General view of Indianapolis Apple Show, held in Indianapolis, Indiana, November 6-11, 1911

after bank and tier after tier of choice and well packed apples greeted the eye. Hoosiers are accustomed to gaze in admiration at small exhibits of one or two varieties of well colored Western apples as if they were unequalled anywhere, yet in this display there were many varieties of Indiana apples equaling the Western fruit in size and color and in flavor. Every apple in the hall was grown in Indiana, and was a credit to the state. Very attractive prizes were offered by the management, and practically every class had a complete list of entries. Class 1 was devoted to the individual orchardists. The first premium was a Western Triplex Hardie Power Spray Outfit, the second premium \$100 in gold and third premium \$50 in gold. Class 2 was limited to county exhibits. The Indianapolis News donated the first prize of \$200 in gold, and the management took care of the second and third prizes of \$100 and \$50, respectively. Classes 3, 4, 5 and 6 were devoted to the five barrel, five box, one barrel and one box groups. The varieties in these classes were limited to the twelve most important commercial sorts suitable for Indiana, such as Baldwin, Ben Davis, Grimes, Jonathan, etc. The best five barrels of each variety took \$25 and the second best \$15. The best five boxes of each variety got \$20 and the second \$10. The best barrel of each variety was awarded \$15 and the second 50 apple trees, donated by C. M. Hobbs & Sons of Bridgeport, Indiana. The best box of each variety took \$10 and the second \$5. The varieties in both plate and tray classes were limited to forty-six. First prize for each variety in the tray class amounted to \$5 and second to \$2.50. In the plate class the firsts took \$1.50 and the seconds seventy-five cents. Third prize for each variety in every class was one year's subscription to the Fruit Belt, a fruit publication of the Middle West. Nine special prizes were offered for special class, such as the Scalecide cup for the best three boxes of any

variety; \$100 for the best five barrels for market, by the Ebner Cold Storage Company of Vincennes, and an aggregate of \$100 for the best box of apples grown in a limited area in Southern Indiana, offered by the Southern Railroad. The Monon Railroad offered \$200 for the sweepstakes box of the show. The total prize money offered by the show amounted to over \$3,000 in cash, besides numerous special premiums, consisting of sprayers, insecticides, etc., and practically every class was full of entries.

Exhibits were entered from every fruit growing section of the state, and no one region carried away more than its fair share of the premiums. This one fact is to be taken as a pretty good indication that the whole of Indiana can and does produce a fancy grade of

apples. The grand sweepstakes prize went to the Indiana School for Feeble Minded Youth at Fort Wayne. The school also took several other firsts in the other classes, carrying away in all \$237 in prize money as well as the "Scalecide" and "Fruitman and Gardener" cups, and numerous special prizes of nursery stock and orchard tools. This orchard has never before been a factor in Indiana horticulture, and great credit is due to the orchardist, Mr. Ora F. Richards. Reed & Fielding of Fayette County also were important factors in the competition. They had on exhibition over one hundred boxes of very high class fruit, and were awarded the \$300 Hardie Power Sprayer for the best individual orchard display as well as numerous minor prizes on barrels, boxes, trays and plates. Among other growers who took part in the removal of the premium money were J. M. Beaver & Son, Glenwood, who got second prize on the individual orchard display as well as numerous other prizes; the Burton Fruit Company, which exhibited five very fine boxes of Grimes; the Heacock Fruit Company, Charles Lindley, Chris. King, H. A. Whiteley, Walter Vonnegut, J. H. Mort, S. V. Hopkins, S. A. Hazelett, T. Y. Newby, G. A. Van Gilder, E. R. Smith, S. Billingsly, O. R. Abraham and many other leading horticulturists of Indiana.

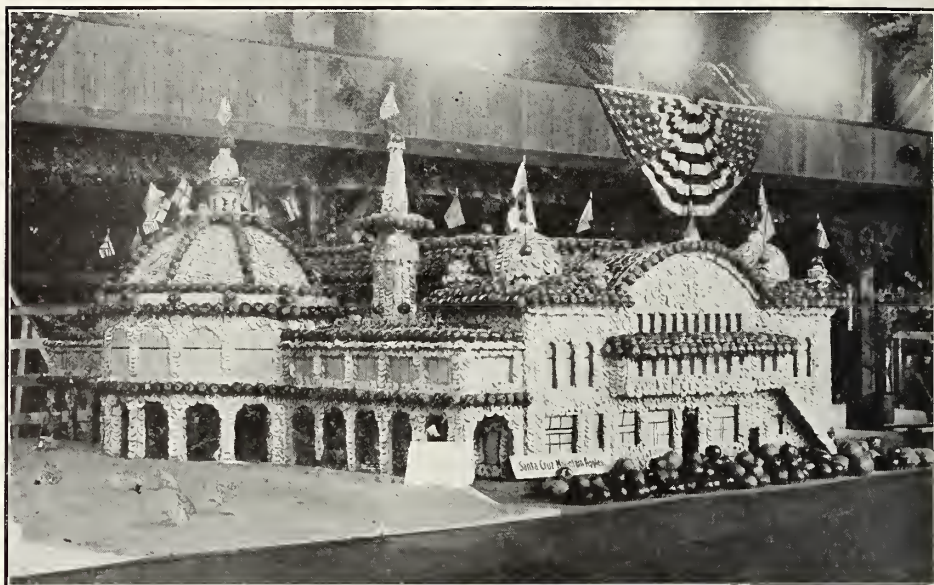
The main idea of this show was educational. In this respect it differed from shows of a similar nature held elsewhere. The majority of land and fruit shows exploit some particular fruit or farming region. This show was held by the Indiana Horticultural Society with the avowed purpose of educating the Indiana apple growers along the lines of improved apple culture, harvesting, packing and marketing. With this end in view, the man-



Baker Commercial Club exhibit at the Fourth National Apple Show, Spokane, November, 1911

agement first secured the services of the best fruit judge on this continent, H. E. Van Deman of Washington, D. C. Professor Van Deman is ex-pomologist of the United States Department of Agriculture, and has judged every show of note since the World's Fair at Chicago. The judge was well pleased with the show as a whole and commented very favorably on the quality of fruit shown. He says that with a little more care in packing the Indiana fruit can compete with that grown in any locality in the country. To watch Mr. Van Deman was a liberal education in itself, and he was always ready and willing to answer any questions relative to varieties. The horticultural faculty of Purdue University gave very generously of their time and effort so that the program might be of greater value to the grower. Professor C. G. Woodbury, chief of the department, who acted as secretary of the apple show commission, gave the first address on the daily educational program on "Orcharding in Indiana." He was followed during the week by both Mr. H. J. Reed and M. W. Richards. These men have had charge of the orchard demonstration work and talked to the growers on various phases of practical orchard culture. Mr. C. H. Baldwin, state entomologist, also gave a very interesting talk on the "Inspection of Nursery Stock." This is an important phase of orchard culture, and every grower should see that his nursery stock bears one of Mr. Baldwin's inspection tags.

Benjamin Hitz, of the commission firm of George Hitz & Co., presented the commission man's side of the marketing question. Mr. Hitz pleaded for a more honest pack and the growing of varieties more suitable for the commercial markets. If fruit is properly grown and honestly packed there will be little or no trouble with the more reliable commission firm. "Uncle" Joe

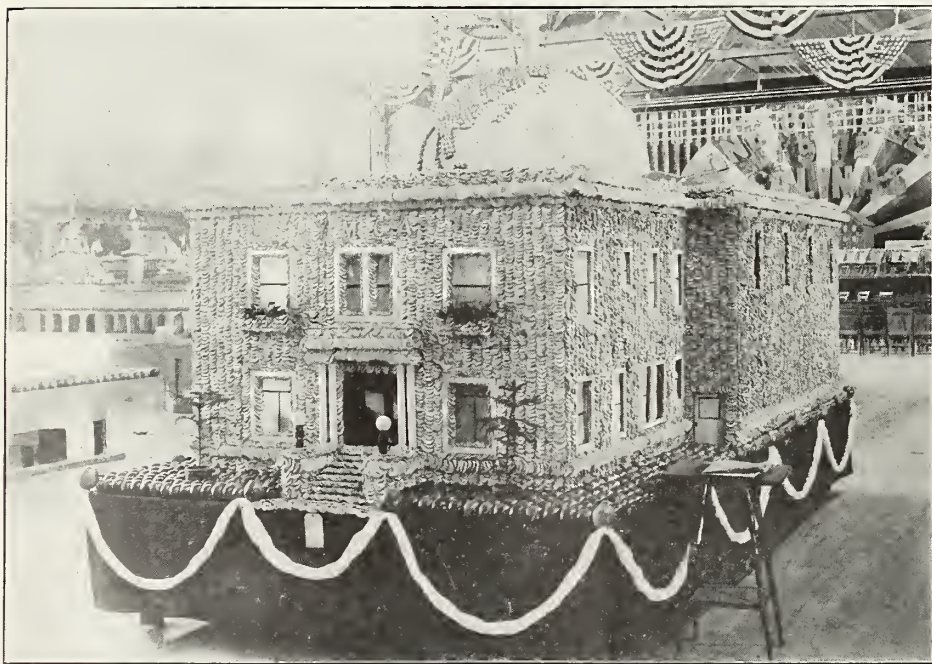


Santa Cruz Casino, the greatest Northern California pleasure resort, exhibited by the Santa Cruz Chamber of Commerce, winning third prize for feature exhibits at the California Apple Show, Watsonville, California, October 9 to 14, 1911

A. Burton of Mitchell, Indiana, gave an outline of his methods of caring for an apple orchard. "Uncle" Joe is one of the most successful growers in the Middle West, and his system of orchard culture proved of great interest to spectators and growers alike. Laporte County has possessed a successful marketing association for some time. Dr. David Reeder, who has been instrumental in the success of this organization, told of the benefits to be derived from such an organization. He fully explained their system of looking for markets and just how these markets were supplied. The keynote of his address was also good products and honest packing. These are the two most important essentials of successful marketing. Every afternoon Mr. Earl Byers, an expert apple packer of Western training, gave practical demonstrations of the different apple packs. He

showed how to pack the large apple, how to pack the small ones and how to handle odd sized fruit. His demonstrations carried conviction to the spectators that the standard apple box is the coming package for the fancy fruit of the Middle West. These packing demonstrations were pronounced by the exhibitors to be one of the most beneficial features of the show. Professor Van Deman, in his short address to the growers, told them that with proper care in packing Indiana fruit would be second to none. Next season's exhibit will show the results of these packing demonstrations, as every exhibitor made it a point to be present at each demonstration and demanded that every conceivable pack should be illustrated.

From every standpoint the first Indiana Apple Show was a grand success. It is a very important forward step in Indiana horticulture and has done much to prove to the great mass of people in the state that in the apple industry Indiana has great latent possibilities. With proper care and management an apple orchard in Indiana will produce, year for year, just as much profit as the same area in any other state in the Union. The great success of this first Indiana Apple Show is due to the ceaseless work and untiring effort of the board of managers. This board consisted of president, E. R. Smith, a leading orchardist of the state; vice-president, C. N. Lindley, president of the Horticultural Society; secretary, C. G. Woodbury, chief of the horticultural department of Purdue University; treasurer, J. M. Cravens, fruit grower from the Jefferson County region, and superintendent, H. E. Barnard, drug and food commissioner of Indiana. These men worked night and day for the success of this show and are to be congratulated on the quality and quantity of fruit exhibited, the prizes offered and the excellent program presented. It is to be hoped that this same board may have charge of future shows.



Young Men's Christian Association Building, Watsonville, California, exhibited by the Association, awarded fifth prize, California Apple Show, Watsonville, October 9 to 14, 1911

The Oregon Horticultural Society Meeting and Apple Show

By Frank W. Power, Secretary Oregon Horticultural Society

THE Oregon State Horticultural Society has just closed its twenty-sixth annual meeting, in connection with which they have always held an apple exhibit. This exhibit has been gradually growing in size until for the past two years it has reached a size needing a special corps of workers, and has been known as the Oregon Apple Show, although still under the auspices of the State Horticultural Society and held at the same time as the annual meeting, but has outgrown the small exhibit of a few hundred boxes which were formerly shown. While the 1911 show was not so large as the one held in 1910, owing to crop conditions in the Northwest, the quality of the display was the highest of any in the history of the society. Apples which a few years ago would have taken first prize could not have received honorable mention, so great has been the improvements in packing and grading the fruit in the past few years. It has never been the intention of the managers of the Oregon Apple Show to seek for large exhibits of carload lots from a single grower, and such will continue to be their policy. One show in the Northwest where carloads by growers are shown is enough.

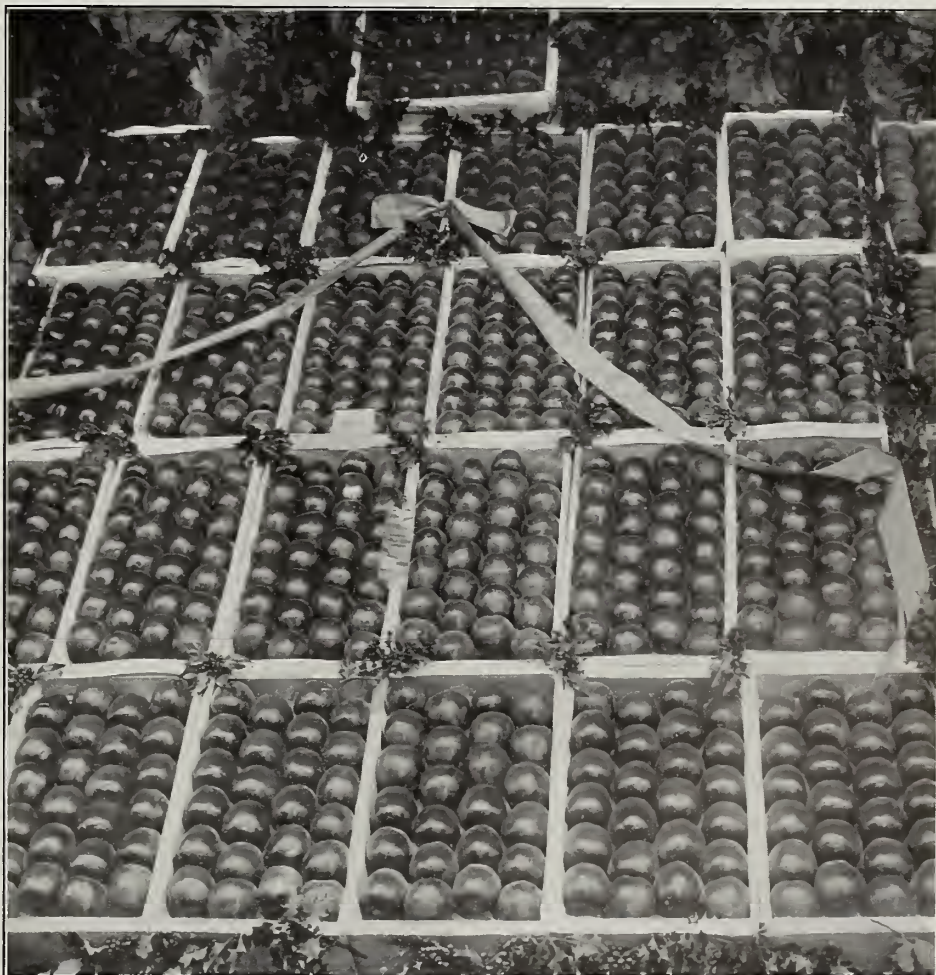
One of the new and prominent features of the 1912 Oregon Apple Show will be artistically staged and representative exhibits from every prominent fruit district in the Northwest, where the artistic arrangement rather than the size of the display will count. It is expected that a committee of Portland business men to be known as directors of the Oregon Apple Show will take charge, the incorporated society working as an auxiliary, and having charge of the program and meetings. A large building will be secured with an abundance of space for all features. As has been the case in the past, it is expected that large prizes will be offered for small exhibits. The largest prize in 1911 was for 100-box lots, but in 1912 the largest prize will probably be for 50-box lots, as it seems wisest to offer the same amount for a 50-box display as is usually offered for a much larger number of boxes, making it possible for a greater number of growers to enter for each prize. This brings about the same number of boxes in the aggregate, but of a higher quality, and by a much greater number of exhibitors, as but few orchards are large enough to pack carloads of exhibit fruits. This also makes competition more keen in each class and is more representative of the country, as more growers and more districts are represented. One great object of the apple show is educative. By seeing the finest specimens that it is possible to grow in each district others will be induced to try and grow better fruit. An editorial in one of our leading horticultural papers recently stated: "The apple shows bring the

competition, and the winners set the pace that others must follow. Every progressive fruit grower in the country ought, by all means, to attend at least one of the large apple shows each season, and a week spent at an apple show, observing and studying the fruit that is on display, listening to the lectures and talking with the past masters in apple growing, will teach one more about fruit growing than years of time in one's own orchard. It is interesting. It creates new ideals. It makes better orchards."

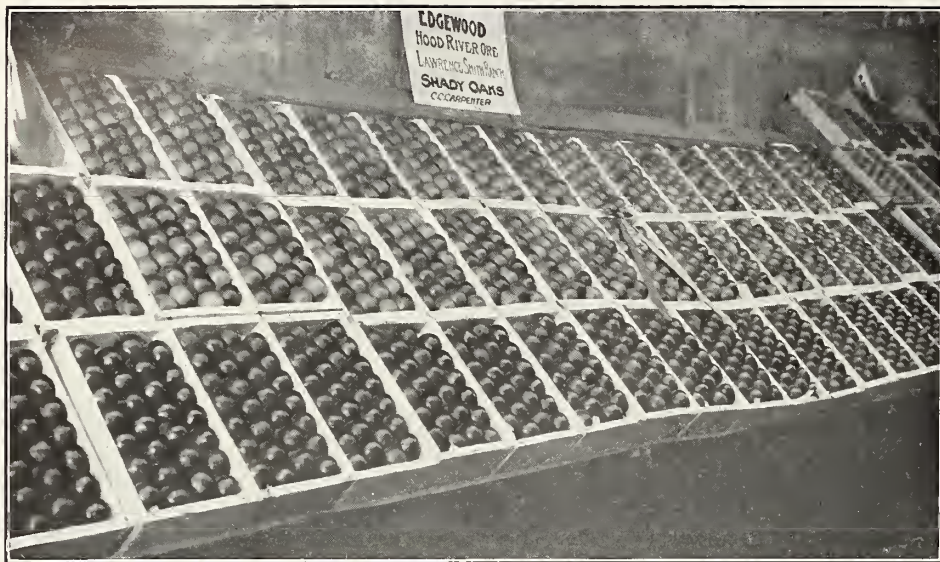
Every fruit district will be invited to bring a display and compete for the prizes. Special prizes will be awarded for special districts. Large prizes for the 50, 25, 10, 5, 3 and single-box lots and plate exhibits. In 1911 dried prunes and pears were shown for the first time in quantity, and this year we expect a still larger exhibit along these lines. The date of the Oregon Apple Show will be about the last week in November or the first week in December, and it will be one of the most interesting ever attempted in the Northwest. Not only will there be quantity and quality, but the artistic features will bring out a new class of competitors among the growers. At

the last apple show three states were represented, but in 1912 it is expected that every prominent fruit district will be on hand with an exhibit that will truly represent their district. This will give visitors a chance to compare size, color, form, etc., of the same apple grown under different climatic conditions.

At the last meeting of the society and Oregon Apple Show one of the most interesting and instructive features was the part taken by the students of the Oregon Agricultural College. The first contest was for naming varieties of apples on plates; a judging contest by the students of single and five-box lots before awards of the judges were placed, but the most interesting of all were the five-minute talks on various horticultural subjects by six of the students. Many of the members stated that it was the most interesting session of any horticultural meeting they had ever attended. Prizes were awarded in each case, and this year the students and faculty of the Oregon Agricultural College will be given at least one entire session, and probably an entire day, with as many new features as can be arranged, giving the students a chance for practical demonstration of the



Twenty-five boxes of Spitzenbergs, winning first prize at Portland Apple Show, 1911, and Hood River Apple Show, November 15-18, 1911, exhibited by Ferguson & Hawthorn, Hood River, Oregon



First prize exhibit of fifty boxes of apples at the Portland Apple Show, 1911, won by Lawrence & Smith and C. C. Carpenter, Hood River, Oregon

instruction they are receiving. Members of the faculty of the Oregon Agricultural College will be on hand with their exhibits from their entomological and pathological departments, ready to explain or answer any question by growers.

Last year one of the exhibits attracting much attention was a five-box entry packed by Miss Ann Shepard, the nine-year-old daughter of the editor of "Better Fruit," who won a prize on this pack. She also won a prize on a single box of Red Cheeked Pippins where she had to compete with expert packers from the entire Northwest. This is only an example of what the Northwest is doing along educative lines for fruit growing, when a nine-year-old girl is not only capable of packing a commercial box of apples, but of winning a prize in competition with the Northwest. How many adult Easterners could do as well? It has often been stated that all apple shows are too much alike and that the main difference is in the quantity shown. This

one will be different, and while quantity will be shown it will not be the leading attraction. It will give the small grower with artistic ability a chance to have an equal or even a better showing than his neighbor with a large commercial orchard. Full information will be sent to all on the mailing list or to anyone interested by addressing the secretary. It has always been the aim of the Oregon Apple Show not to compete with any existing apple show, but to offer something different. This year we expect to carry this idea to a greater extent than ever before. We are ready and willing to help boost any other apple show, no matter where situated. They are all doing a good work—helping to educate the grower to produce a better fruit, to make a better and more honest pack and grade of his fruit, educating the consumer to insist on better fruit, better grading and better packing; educating the public to eat more apples by seeing the most perfect specimens on exhibition.

Hood River at the Oregon Apple Show

By Roy C. Brock, Superintendent Hood River Exhibit

THE Oregon Apple Show, held under the direction of the Oregon State Horticultural Society, opened on Wednesday, November 15. Owing to the general shortage of the apple crop over the entire Northwest this season the display was not so extensive as many visitors had expected. However, the quality of that on display from each of the different sections was very creditable indeed, and all the other requisite points in connection with a model display were prominently in evidence. This year the society decided to discontinue the practice of giving a sweepstakes premium in addition to other premiums for the best general display and substituted for it the \$500 in premiums for the first, second, third and fourth best displays of 100 boxes, to consist of not less than three varieties of at least 25 boxes of each variety.

This premium was awarded to F. Davidson and J. C. Porter, both of Hood River. The display was made up of 28 boxes of Spitzenbergs, 28 boxes of Yellow Newtowns, 28 boxes of Arkansas and 16 boxes of Red Cheek Pippins. The premiums for the 50-box lots were awarded, the first to Lawrence, Smith & Carpenter of Hood River. The display consisted of Spitzenbergs, Winter Bananas and Yellow Newtowns. The second premium was awarded to The Dalles. Both exhibits were very creditable. The display of Winter Bananas was probably the largest of this variety ever on display at the Oregon Apple Show. The best 25 boxes of Spitzenbergs were displayed by Ferguson & Hawthorne of Hood River. The second premium was awarded to Lawrence & Smith of Hood River. The excellence of both these displays may be realized

by the fact that when the scores of both were compared it was found that Ferguson & Hawthorne were only one-tenth of a point ahead of Lawrence & Smith. The first premium for the best 25 boxes of Yellow Newtowns was awarded to Sears & Porter of Hood River and the second premium to Frank L. Davidson, for the Apple Land & Orchard Co. of Hood River. The scoring on these two displays was very close, an indication of the merit of each. Probably the next premium of most importance was that given by the Hazelwood Cream Store of Portland. It consisted of \$50 in cash for the best five boxes, not more than two boxes of each variety. This was awarded to Lawrence & Smith. The five boxes consisted of two boxes Spitzenbergs, two of Winter Bananas and one of Arkansas Blacks.

There were many of the awards on various quantities of varieties, ranging from ten-box lots to the plate apples, which are all deserving of mention and of credit to the exhibitors, but limited space will not permit of such discussion. However, the following list shows the premiums awarded to exhibitors: Best ten boxes apples, three varieties, Mrs. H. O. Seiverkropp; best ten boxes Spitzenbergs, John Weaver; best five boxes Spitzenbergs, A. Hukari; second best five boxes Spitzenbergs, F. L. Davidson; best three boxes Arkansas Blacks, A. Hukari; best three boxes Rome Beauties, Sears & Porter; best three boxes Spitzenbergs, A. Hukari; second best three boxes Spitzenbergs, Keck & Magee; best three boxes Yellow Newtowns, George I. Sargent, Montague Farm; second best three boxes Yellow Newtowns, Sears & Porter; best box Baldwins, Oscar Vanderbilt; second best box Baldwins, John Weaver; best box Red Cheek Pippins, Ann Shepard; second best box Arkansas Black, Maxwellton Orchards; second best box Hydes King, A. Hukari; second best box Northern Spy, Oscar Vanderbilt; second best box Red Cheek Pippins, Geo. I. Sargent; second best box Ortley, Sears & Porter; second best box Delicious, William R. McCready; best box Winesaps, A. Hukari; best box Spitzenbergs, Keck & Magee; best plate Arkansas Blacks, Maxwellton Orchards; best plate Rome Beauty, Mrs. Roy C. Brock; best plate Wagener, Mrs. H. O. Seiverkropp; best plate White Winter Pearmain, Mrs. Scobee; best plate Yellow Newtowns, Maxwellton Orchards; second best plate Arkansas Blacks, Mrs. H. O. Seiverkropp.

One of the smaller exhibits is particularly deserving of mention and comment. The handsome exhibit of five boxes by Miss Ann Shepard, daughter of Mr. E. H. Shepard of "Better Fruit." Miss Ann is only nine years old, and did all the work in connection with packing the exhibit, and the high quality of her work goes to show that the younger generation, by their daily contact with the ideals in the growing of better fruit, is assimilating these ideals for future use in her life to

come. This little lady is to be praised for her excellent work and encouraged to exhibit on future occasions. Another exhibit especially worthy of comment was that made by A. Hukari. His total number of boxes displayed was thirteen, and won for him four first premiums and one second. It is far better to make a small display of the best rather than a large one of secondary quality. Mr. Hukari's first premium Winesap box and Mr. Olson's first premium Delicious box were the two best boxes of apples on display at the show, each lacking only one point in one thousand of perfection. Mr. Olson is a resident of the White Salmon Valley in Washington, near Husum. No doubt the incoming officers of the society will make the next show a larger and better one in every respect, and it is hoped that every grower will consider it his duty to get in and help to make all the displays larger and better. The incoming president of the society is a thorough man in this kind of work, and the show should be made of as much importance to Portland and Oregon as is the Rose Festival.



The Panama Canal, exhibited by the students of the Watsonville High School, at the California Apple Show, Watsonville, October 9-14, 1911, winning first prize of \$200 for the best feature exhibit, in addition to valuable silver trophy awarded by the Produce Exchange of Los Angeles

American Land and Irrigation Exposition

By Dudley Boylston

THE New York Land Show, in the language of President Hegeman of the Metropolitan Life Insurance Company, who visited it three times—"astounded New York with its showing of the productivity of our glorious country." W. M. Jardine, agronomist of the State Agricultural College at Manhattan, Kansas; George W. Cavanaugh, agricultural chemist of the State Agricultural College of New York; H. J. Webber, professor of plant breeding, Cornell University, Ithaca, New York; C. G. Williams of the State Agricultural College at Wooster, Ohio, and H. E. Van Deman, judge of pomology, of Washington, D. C., stated above their signatures, "As a collection of the agricultural products of America, this land show clearly surpasses anything of a similar nature ever held." Mr. M. L.

Dean, horticulturist for the State of Montana, wrote to the general manager of the land show: "The exhibition and horticultural display of the American Land and Irrigation Exposition is much the best and greatest that I have ever had the pleasure of attending. I commend in every way the efforts made by your officers, and assure you the people of Montana will appreciate what has been done, and will be exhibitors on a much larger scale at any show you may have charge of in the future."

George B. Haynes, assistant general passenger agent of the Chicago, Milwaukee & St. Paul Railway, states: "New York land show is biggest and best ever given." Mr. E. C. Leedy, general immigration agent of the Great Northern Railway, states: "New York land products show in Madison Square

Garden is best in history of America." J. S. Dennis, president of the Canadian Pacific Irrigation Colonization Company and manager of the irrigation department of the Canadian Pacific Railway, wrote: "With reference to the American Land and Irrigation Exposition, having exhibited from the Atlantic to the Pacific, I have no hesitation in saying I have nowhere seen a more educational and attractive land show." Mr. L. J. Bricker, general immigration agent of the Northern Pacific Railway, says: "The exhibition of agricultural and horticultural products at Madison Square Garden this week is the finest ever made in the history of the world." Mr. M. V. Richards, land and industrial agent of the Southern Railway, wrote the management: "The great collection of agricultural and horticultural products gathered at this exposition is wonderfully complete. I have never known one which so fully shows the land resources, opportunities and possibilities of the country. If the people of New York City and the East fail to see and appreciate the exposition it will certainly be a great mistake on their part." Not only are the West, the South and the Northwest of accord in this view, but the East as well gave the New York show its endorsement. P. M. Harwood, manager of the New England exhibit, states: "Undoubtedly the best exposition showing American land products ever held." Mr. Raymond A. Pearson, commissioner of agriculture, Albany, New York, said: "I have seen many land shows, but none so comprehensive and well arranged as this one." S. C. Shaver, secretary of the New York State Fair, said: "It is



New York State exhibit at the New York Land Show, held in New York City November 3-12, 1911



General exhibit at the New York Land Show, November 3 to 12, 1911, from the New England States

the universal opinion that this is the best showing of land products of America ever assembled."

The superintendent of admissions states that 213,654 visitors viewed the exhibits during the eight-day term of the exposition in Madison Square Garden, and the Garden people affirm that it was the most beautiful and the best show ever held within that historic edifice. For the first time in the history of any show in Madison Square Garden it was necessary on eight different occasions for the police to close the doors because of the tremendous crowds assembled, and more visitors were not allowed to enter the land show until a number went out of the Garden. During the show and after its close it was the leading topic of conversation in banks, clubs and leading financial institutions of the metropolis.

A feature of the exposition was the attendance of the 19,358 school teachers of Greater New York. The exposition was inaugurated by a banquet given by President Stilwell to about five hundred prominent men, including those in charge of various exhibits, railroad presidents and other men of prominence in America. Among the speakers at the banquet were President Brown of the New York Central Railroad and Dr. Harvey Wiley, chief chemist of the Department of Agriculture. The banquet was notable even in New York. It was held in the Waldorf Astoria. In the banquet hall there is a magnificent pipe organ, which was played during the dinner by Professor J. J. McClellan of the Salt Lake Tabernacle. The "Irrigated Region," which is a part of the irrigation ode written by Mrs. Gilbert McClurg and set to music by Professor McClellan, was sung by the Mormon Tabernacle choir of two hundred voices. The choir, whose women singers were attired in white, relieved against the black of the men's evening

dress, was placed back of the speakers' table, where sat governors and senators, and Hon. H. H. Gross, president of the National Soil Fertility League; President Henry Exall of the Texas Development League, Colonel Robert M. Thompson of the Cotton Exchange, Mr. Paul Ledyard Van Cleve of Montana and the toastmaster, Mr. William H. McElroy. During the course of the banquet a band of Indians, gaily costumed, marched through the hall bearing the pumpkin and the grape to President Stilwell's board, just as centuries before the Indians brought these products of the soil to Hendrik Hudson. These fruits were now presented to a representative of "Father Knickerbocker."

Hon. Eugene Grubb, the potato specialist of Colorado who judged the potatoes at the land show in New York, writes: "The New York Land Show was a brilliant exhibition in every way. I consider it the best ever installed, owing not only to the wide diversity and excellence of the displays but to the artistic manner in which the exhibits were arranged. Perhaps the most pleasing feature of these land shows is the opportunity they give to everyone to converse with the big, brainy men who are foremost in developing the agricultural interests of their states and districts. Their information and ideas are all of the greatest value, and it is on these occasions that they get into touch not only with the public but with their competitors or co-workers from many states. The spirit of rivalry is very beneficial to states as well as individuals. Shows of this kind are particularly interesting to city people who have once lived or were reared on a farm. It brings back to them the recollections of rural life, and renews their love of field and stream, and intensifies the yearning to get away again from the continuous rattle and roar of the city with its surface, elevated and subway cars, its busses, "taxis," trucks and what not.

The land show seems to be one of the elements that is to bring a still greater movement toward the farm, with its simple luxuries and lasting pleasures. The advance made in scientific agricultural knowledge has been a great factor in developing the country, and the land show is but another expression or element of the movement for a higher standard of living in rural communities, where the educated man will rule, as he does elsewhere. Mr. J. J. Hill of the Great Northern appeared as the principal patron of the New York Land Show. The magnificent trophies, valued at \$15,000, for the exhibitors at the



General exhibits from the Northwestern States at the New York Land Show, November 3-12, 1911

New York show exceeded anything ever offered at an exposition for the encouragement of agriculture. Montana carried off four of these splendid prizes. Her barley from the Gallatin Valley took one of them. Without question this valley produces the best barley in America. The conditions are so favorable that barley even of the finest type grown elsewhere improves from year to year on Gallatin Valley lands. The trophy-winning barley at the New York show was grown from prize seed brought from Germany and which had undergone the improving process in the Gallatin Valley for several years. The other trophies captured by Montana were for oats, wheat and alfalfa. It was natural to expect that Colorado would take the trophy for sugar beets, and she did. This state has a large percentage of the beet sugar factories in the United States and a vastly greater area devoted to beet growing than any other state. The industry has been developed to the highest standard. An eighteen-year-old boy from Greeley, Colorado, was the winner of this trophy. Now for the potatoes. When I begin on potatoes I never know when to stop until somebody pulls the string.

This exhibit was another tremendous surprise to those who know the potato industry. Asahel Smith and C. H. Stuart-Waite of New Westminster, British Columbia, were awarded the potato trophy. I have seen a great many potato exhibits, but never have I seen an equal of this one, the sensation of the New York Land Show. This trophy, valued at \$1,000, was offered by President Stilwell of the land show, and it was so fairly won that there was scarcely any chance left for second choice. Messrs. Smith and Stuart-Waite presented 101 exhibits of thirty pounds each, which embraced practically every well known variety of potato grown in Great Britain and the United States. Mr. Smith himself grew fifty-five separate acres and collected forty-six acres



General exhibit at the New York Land Show, November 3 to 12, 1911, made by the Southern Railway

from the farms in the district surrounding New Westminster. In order to do justice to other exhibitors who were in the competition I should state that these gentlemen have been for several years growing potatoes for exhibition. With such a conscientious and thorough apprenticeship they were in a fair way to stand as invincible exhibitors. They have won by reason of continuous effort. We are familiar with similar results in the livestock industry, where men have devoted years of effort to following closely the prize-winning requirements and always breeding to meet these requirements. For uniformity of growth and trueness to breed type characteristics, freedom from diseases and blemishes, and for the grouping of so many separate and distinct varieties of potatoes in one display this exhibit was unsurpassed. Everyone of those thirty-pound exhibits was accompanied by a sworn certifi-

cate as to the measurement of the land and the yield. The products of these 101 acres varied from 300 to 900 bushels per single acre. Think of growing nine hundred bushels of potatoes on one acre of ground! This exhibit demonstrated to our potato growers in the states capabilities of our soils, and its value in this respect is practically measureless. This demonstration shows what seed selection, soil culture and fertilization can do in the matter of producing a great quantity of one of the most staple foods upon a small area of land. The Burbank creations from Northern California shown at the Pittsburgh Land Show were brought to New York with other displays, and around these wonders the crowd swarmed continuously. Such fruits, such flowers, such vegetables and plants of many kinds were never seen outside of this exhibit before, and universal homage was paid to the patient investigator who produced them through a lifetime of painstaking study and experiment.

The agricultural departments of New York and other Eastern States were represented by diversified crops, which embraced long lists of the products of the farm, and all showing the steady advance of agriculture and improved conditions of farm life, which now may be made to embrace almost all the luxuries of the city without its numerous detractions and distractions." The \$1,000 corn prize, given by the International Harvester Company of America, was awarded to Virginia.

Professor Maurice A. Blake, horticulturist of New Jersey Experiment Station, had charge of the installation of exhibits competing for the various prizes, and he did his work remarkably well. Professor Blake will speak for the New York State Fruit Growers' Association in Rochester in January, urging that Eastern apple growers should pay more attention to the packing of fruit and advising that rules in regard to fruit exhibits are too loose



General exhibit made by the State of Utah at the New York Land Show, November 3 to 12, 1911



Potato exhibit at the New York Land Show, held from the 3rd to 12th of November, 1911, made by Smith & Stuart-Waite of New Westminster, B. C., winning the prize cup trophy, valued at \$1,000, donated by A. E. Stilwell, president of the land show

and not detailed enough, in all parts of the United States. This was forced upon the attention of Eastern growers more at the New York Land Show than anywhere else, and no doubt will arouse the growers, inducing them to establish more definite rules. In a contest between various sections there are, of course, one or more who attempt to have special arrangements made as to judging which are likely to favor those sections, and some national standard should be drawn up and strictly adhered to in all cases. Variations from a common standard lead to much dissatisfaction. Mr. Blake writes:

"The boxed apple exhibits at the recent land show held in Madison Square Garden, New York, were the most extensive ever staged in the vicinity of New York. The Northwest was well represented by some fine and well packed fruit. There were only six entries from the Eastern States and one from British Columbia competing against the entries from the Northwest." The Eastern growers were not pleased with the elimination of quality on the score card in awarding the prize of \$500 in gold offered by Howard Elliott, president of the Northern Pacific, for the best twenty-five boxes of apples of any variety or varieties, a single variety to the box, grown anywhere in the world and exhibited at the New York Land Show. Exhibitors who entered Eastern grown fruit for the prize were not familiar with the style of pack and size of fruit considered best in boxed fruit competitions. Mr. Grant Hitchings of Syracuse, New York, had the best twenty-five boxes of apples of any of the Eastern exhibitors. Mr. Hitchings had some beautifully colored Spies and of a very high quality, but these were of a large size, and ran eighty and seventy-two to the box. The judge considered these too large and scored off five points on size. This grading did not appeal to many Eastern growers, and they maintained that large apples sell for better prices and are in better demand in New York and many local

markets than are smaller apples. New England had a very fine display of apples, principally of the McIntosh variety. These were all of uniform size and of very high quality. None of the fruit on exhibition from New England was in competition, however. This exhibition at the land show afforded Eastern growers an opportunity to study the standards of the Northwest, and other contests of this kind are certain to be much closer.

Eastern growers in general, however, will urge a larger size apple than is being judged as the best size for boxes by Western growers. Much was also said in favor of the barrel as a package by Eastern fruit growers, and it was believed that the barrel package still occupies a strong place as a market package in the East. This, however, is not desired by the commission merchants or by the fruit peddlers. Eastern growers are only just beginning to

give attention to the exhibition of apples in boxes. Much less has been done in the East in the way of demonstrations and instruction in regard to packing apples in boxes, and Eastern exhibitors need more experience in this line. The East has not made any organized effort to establish standards of its own as to apple contests, and it does not matter if the Western standards are pushed completely to the front. Many Eastern growers attended the land show, and they all agree that there was a magnificent display of fruit, but they do not agree with the Western standards for the size of apples. If certain New England fruit growers had entered into the apple competition the contest would have been much closer. The New York and New England growers will, however, demand that quality be considered in future contests which they may enter.

At the New York Exposition the score card was as follows: Quality 20, color 20, size 10, uniformity 10, condition 20, pack 20, a total of 100 points. Pack card as follows: Compactness 4, bulge 4, alignment 4, height at ends 4, attractiveness 4, a total of 20 points.

It is remarkable that a woman should win the grand sweepstakes prize of \$500 in gold and also the silver cup, given by Adrian G. Hanauer of Spokane, for the best apples exhibited from the Northwest, and it is remarkable that the five highest scores were made by growers in the State of Washington, as follows: Mrs. Ella D. Rowland, Toppenish, who exhibited twenty-five boxes of Winesaps, score 982%; Robert Johnson, North Yakima, 5 Salome, 10 Winesap, 5 Spitzenberg, 5 Arkansas Black, score 978.7; J. D. Laughlin, Toppenish, 2 Spitzenberg, 15 Winesap, 7 Stayman, 1 King David, score 976½; H. M. Gilbert, North Yakima, 25 Winesaps, score 975%; Beasley & Dinges, North Yakima, 5 Spitzenberg, 20 Wine-



General view of main floor of the Auditorium, where feature exhibits were placed, California Apple Show, Watsonville, October 9 to 14, 1911

sap, score 974; Grant G. Hitchings, Syracuse, New York, 4 McIntosh, 1 Sutton, 3 Greenings, 2 Canada Red, 3 Hubbardston, 6 Spy, 6 King, score 970.04; E. B. Crockett, Lynchburg, Virginia, 25 Winesaps, 891%.

The James J. Hill \$1,000 wheat prize was won by James Todd of Geyser, Montana, with honorable mention to Edward W. Weckel of Fruita, Colorado. It was indeed a surprise that Southern California should receive the \$1,000 prize cup for the best short staple cotton. This cup was won by Mr. Howard S. Reed, president of the American Nile Company, El Centro, California. The \$1,000 alfalfa cup went to Dr. W. X. Sudduth of Billings, Montana, and the hops trophy was won by DeWitt M. Mitchell of Schuyler Lake, New York. The oats trophy was won by Messrs. A. F. Patton and W. J. Hartman of Bozeman, Montana, and the barley trophy went to R. Eisinger of Manhattan, Montana. The \$1,000 in gold for the best wheat grown in the two Americas and given by President Shaughnessy of the Canadian Pacific Railway, was won by Seager Wheeler of Rosethorn, Saskatchewan. Among the land gifts at the exposition were a \$3,000 apple orchard near Spokane, a five-acre pecan grove near Tallahassee, orange land near Fort Myers, Florida; farm land in Montana and Texas, and two grain tracts in Wyoming.

Elbert Hubbard, in his "Philistine" for December, pronounced this exposition "the most important happening that has taken place in New York this year," and "no exhibition like it, or equal to it, has ever been held in New York City." The New York Sun



One hundred boxes of apples, consisting of Spitzenbergs, Yellow Newtowns, Arkansas Blacks, Red Cheek Pippins, exhibited by Sears & Porter, Apple Land and Apple Orchard Company, and George I. Seargent, Hood River, Oregon, at the Portland Apple Show, 1911. Also exhibited at the Hood River Apple Show, November, 1911

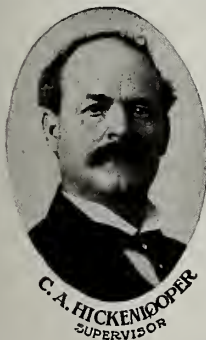
of November 12th quoted from Gilbert McClurg, general manager of the land show, whose offices are in the Singer Building, New York, that there surely would be another land show next year, for the crowds that had attended this year's show warranted the holding of another. Next year's exposition will not be confined to exhibits of this country and Canadian Northwest, but will include exhibits from South America. It will be in truth an American Land and Irrigation Exposition, the finest showing of the products of the soil ever assembled anywhere any time. The New York Land Show for 1912 will run from November 15 to December 7, inclusive—twice the length of the exposition

this year. It will be held in a building larger than Madison Square Garden—in the magnificent structure of the Seventy-first Regiment Armory, Thirty-third and Thirty-fourth Streets and Park Avenue, which has ideal transportation facilities. The officers of New York's first land show, because of its great success, have been retained, and will direct and manage the New York Land Show of 1912. Many of the exhibitors of the present year have signified their intention to exhibit in New York in 1912, because in that financial and immigration center they find that their products and land advertisements will be made known in the greatest population center of the New World.

Fruit Exhibit at Utah State Fair

By J. Edward Taylor, State Horticultural Inspector

WHEN President William H. Taft entered the Horticultural Building at the Utah State Fair last fall he remarked with considerable emphasis, "My, what beautiful apples."

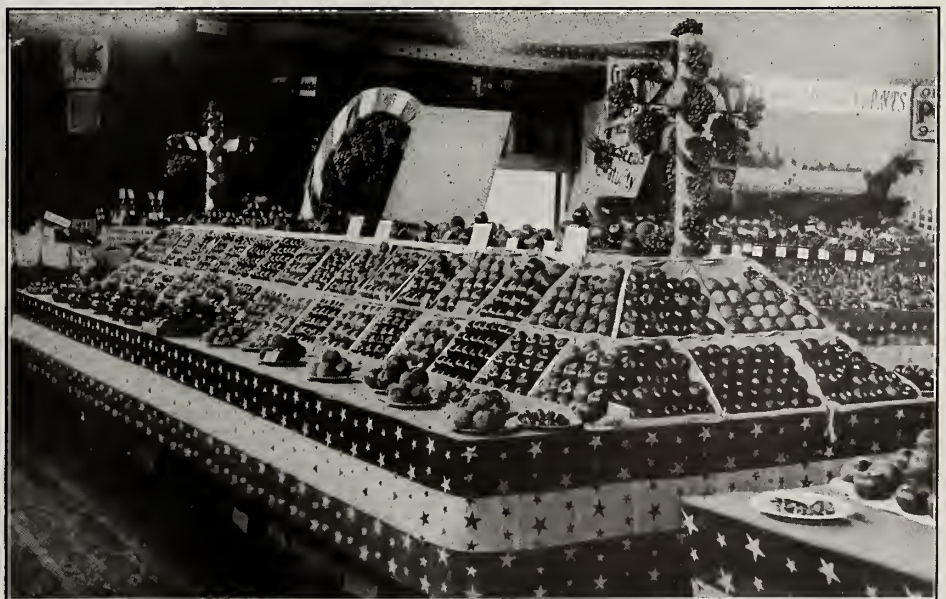


As a matter of fact the fruit showing at the fair was a great surprise to the majority of the local people—even those who are somewhat familiar with the very rapid stride which the fruit industry of Utah has been making in the last few years. One of the most valuable results

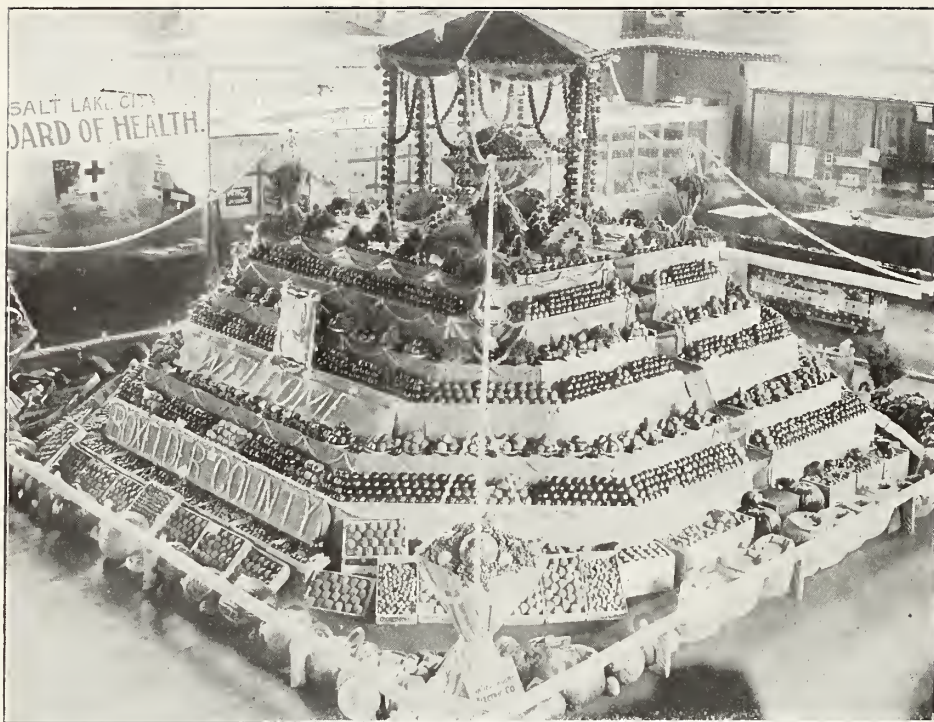
derived from the fair was the pronounced demonstration of the improvement which the fruit growing interests of the state had made during 1911. It was unquestionably one of the finest horticultural displays ever made in this state. The educational value of the fairs can hardly be overestimated, both from the standpoint of the grower and

that of the public. The individual growers have their standards brought up to the highest degree of perfection,

the consuming public has a good opportunity to form its opinion of what constitutes good fruit, and as a conse-



One of the individual displays made by Garth & Sons, Draper, Utah, at the Utah State Fair October 2 to 8, 1911



Prize-winning collective county exhibit, made by Box Elder County, Brigham City, Utah, at the Utah State Fair, October 2 to 8, 1911

quence demands of the grower a better quality. Then, too, there is a lot of general publicity given to the fruit business, which brings increased sales to the grower and consequent greater consumption of fruit by the people.

The competition between individuals was especially strong in the variety plate displays of commercial apples, each grower being particularly anxious to excel in the production of the leading varieties. The fair management was wise in this respect, paying premiums on those varieties which are commercially grown in the greatest abundance over the state. Included in this list are the Jonathan, Winesap, Rome Beauty, Gano, Spitzenberg, Winter Banana, Wealthy, Arkansas Black, Mammoth Black Twig. Smaller premiums were awarded on a second group of apples including the Ben Davis, Missouri Pippin, Lawver, White Winter Pearmain, Rhode Island Greening, Northwest Greening, Yellow Bellflower, York Imperial, Grimes Golden, McIntosh Red, Wolf River, Delicious, Baldwin, Northern Spy and Newtown Pippin. No premiums were paid on individual varieties other than those mentioned in this list. The growing of commercial varieties was still more emphasized by the offering of a still larger premium for the best thirty specimens of the first eight varieties listed above. A special premium of \$15 was paid for the best collective exhibit of apples of the varieties named.

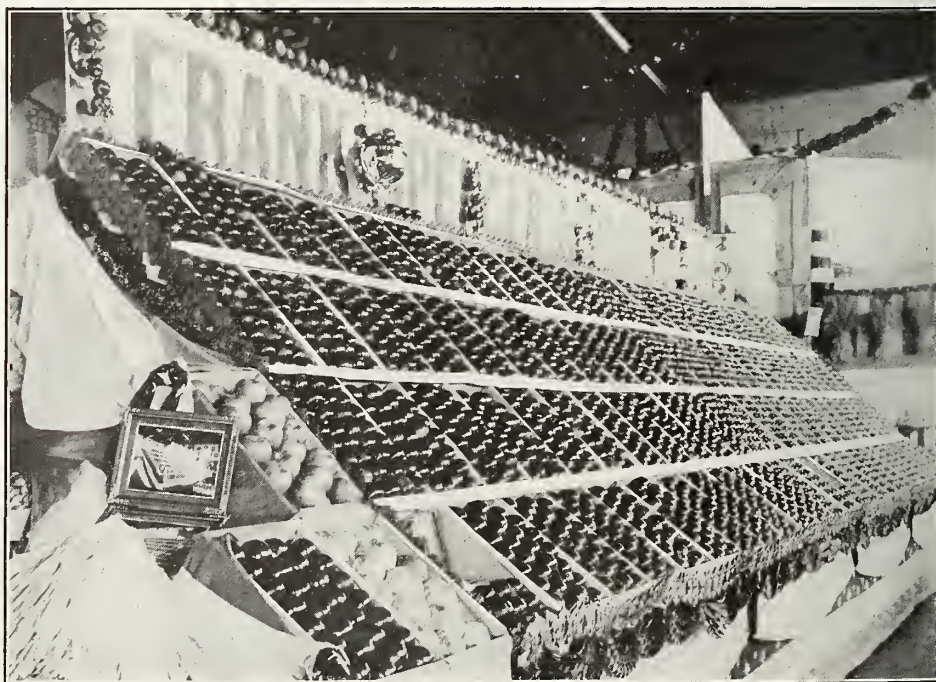
In pears the Bartlett was the variety most generally shown, but there was also some very fine specimens of Beurre de Anjou, Vermont Beauty, Lawrence, Paul duBarry, Winter Nelis and Flemish. The peach is an important factor in the fruit growing of the state, but it was a little late in the season to make the extensive showing

which the commercial development justified. However, there was a number of varieties shown, including the Elberta, Celler's Cling, George A. Lowe, Globe, Heath Cling, Utah Orange, King Cling, Muir and Late Crawford's. Plums and prunes are not as extensively grown in the state as the peaches and apples, consequently the competition in this class was not keen. The Fallenburg, German, Hungarian, Italian, Giant and Petite were displayed in greatest numbers. The showing in grapes was limited to a few growers, but the display as a whole contained a good collection of the leading commercial varieties, including Muscatel, Black Amber,

Flame Tokay, Thompson Seedless, Concord, Black Prince, Niagara, Black Pearl, Purple Damascus, Zinfandel, Chasselas Rose (Red), Muscat of Alexandria, Black Ferrera, Black Hamburg, Black Cornichon, Black Melvoise and Sweet Water. Among the miscellaneous exhibits was a splendid collection of bottled fruits, peanuts, English walnuts, hard and soft shelled almonds and quinces.

The fair management realized the importance of introducing better methods of packing and handling fruit among growers, and therefore offered special premiums for the best packs of apples, peaches, pears and plums. The growers who received prizes in these classes felt signally honored. The awards for the best pack of apples went to Francis Spencer, Jr., Provo; H. B. Childs, Riverdale, and Oliver Senior, Springville, second and third. In the pear pack Otto J. Poulson, Provo, first; R. W. Brereton, Provo, second. First premium for the best pack of prunes went to Otto J. Poulson, Provo; L. C. Kjar & Sons, Provo, and S. W. Cragun & Sons, Ogden, second and third. Oliver Senior, Springville, won first honors on the peach pack; S. W. Cragun & Sons, Ogden, second.

The 100-box displays of apples were the most meritorious exhibits in the Horticultural Building. First premium in this class went to H. B. Childs of Riverdale on one hundred boxes of Jonathans. The second prize went to Franklin Spencer, Jr., Provo, for display of the same variety. There exists considerable rivalry between the various fruit counties for first place as a fruit producing county. Box Elder County, of which Brigham City (the famous peach district) is the county seat, won the silver cup on a very extensive and artistically displayed collection of fruits of all kinds.



One hundred boxes Jonathan apples, exhibited by Frank Spencer, Jr., Provo, Utah, at the Utah State Fair, October 2 to 8, 1911

The American Apple Exposition Held at Denver, Colorado

By A. W. Sowers, Director Publicity American Apple Exposition

TWELVE states and the Dominion of Canada were represented at the second annual show of the American Apple Exposition Association held at Denver, Colorado, from November 13 to 18, inclusive. From the standpoint of quality of fruit and the uniform excellence of pack the exposition was a great success. The attendance from the state was all that could be expected and general satisfaction was expressed over good results that can be expected for the apple industry in general. The experiment of excluding carload displays and restricting the exhibits to twenty-five boxes and under met with general approval, and demonstrated that this ruling will prevail in the future so far as apple shows in Denver and Colorado are concerned. It was the unanimous opinion of fruit growers who exhibited at Denver that the carload displays are too bulky for show purposes.

The premium list was generous, figured on the box rating. Prizes and premiums were awarded on 382 classes and divisions. Besides, there were numerous entries that failed to get in sight of the "money," consequently it will be seen that the entry list was widely distributed. A feature of the show was the presence of new growers who did not exhibit at the apple show in Denver two years ago. There was a large number of familiar faces among the exhibitors, and the newcomers in their midst demonstrated the popularity of the Denver exposition. Keen competition was manifested among the Colorado apple sections. Delta County came in under the wire first in total premiums with fifty first and sixty-five second awards, including sweepstakes and specials. Outside of the plate and by-products classes Delta and Mesa Counties were practically a tie, Delta taking twenty-

three first and twenty-three second and third premiums, while Mesa took twenty-five first and twenty-four second and third. As usual, however, in the plate classes, Delta was in the lead over all competitors. Mesa County is nevertheless satisfied with her showing, being in a position to boast of leading in the larger classes, taking eleven out of twenty-four of the sweepstakes and special premiums. Montezuma County enjoyed a great

the float shown in the industrial parade. Perhaps the finest individual display was that from the famous Cross Ranch, located near Clifton in the Grand Valley. This ranch consists of 240 acres, principally in apples, but having some peaches and pears, and this is the first season that the ranch has produced apples. Mr. Cross was awarded the special premium for an improved pack, the principal feature of which is a cardboard division



A section of the display from Delta County, Colorado, which led all fruit districts on total first, second and third premiums, including several sweepstakes. The challenge issued by them on the banner has not yet been accepted. This exhibit was made at the American Apple Exposition at Denver, November 13 to 18, 1911

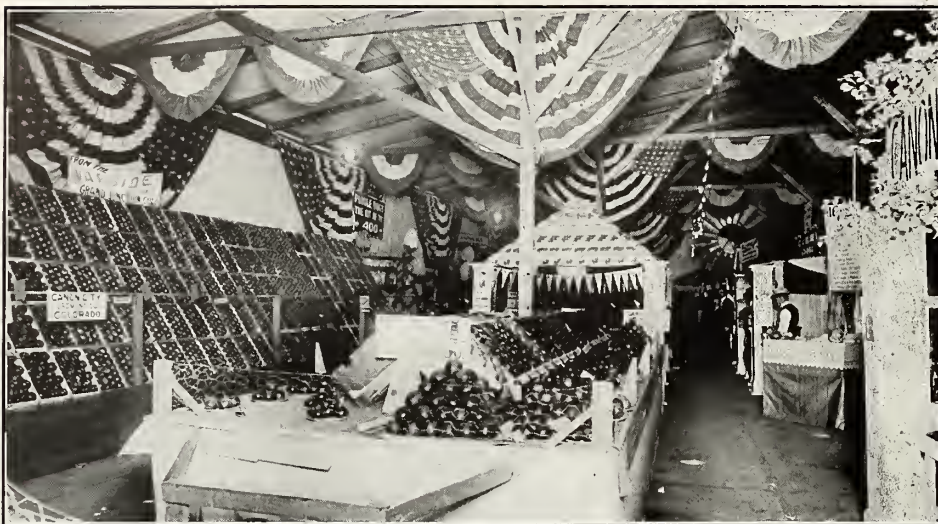
deal of publicity over the fact that the exhibits from that section had to be freighted a long ways in wagons around a washout on the railroad. Under the leadership of W. T. Bozman of Cortez, G. W. Spencer, G. W. Turner, Edgar Buchanan and George M. Raymond of Durango this exhibit captured ten first premiums and nine consolidated prizes, including one of the sweepstakes. Canon City scored first in the district display, besides on

between each apple. The entire crop on this ranch was high class, and Mr. Cross was congratulated on all sides for the interest he is showing in quality of fruit and standard of pack. The Denver Post trophy, which was a handsome silver cup, was awarded to Kelly & Graves of Grand Junction.

A departure from the usual plan of holding apple shows was made this year by the introduction of hippodrome features in the huge auditorium. A special building was erected alongside the auditorium for the apple exhibits and the large auditorium, except that the basement of which was used for exhibits, was devoted to the carnival attractions. There was a special hippodrome for each night in the week, including an athletic tournament, military tournament, horse show, grand state and military ball and mask ball. The street decorations were magnificent, including both the day and night decorations. Denver never was lighted more brilliantly than it was that week. An important adjunct to the show was the second annual convention of the American Apple Congress, which was held in the convention hall of the Albany Hotel, November 14, 15 and 16. The program was excellent and many important subjects of vital interest to the apple industry were discussed. It was the sense of the congress, however, that future sessions should not be held



Handicapped by disastrous floods, which washed out hundreds of miles of track of the only railroad entering their district, Montezuma County, Colorado, exhibitors displayed their nerve by freighting out their exhibit to the nearest railroad point for entry at the American Apple Exposition at Denver, Colorado, in November, and were awarded with one sweepstakes, besides numerous premiums on their plates and boxes



Sectional view of the exhibit hall at the American Apple Exposition held in Denver, Colorado, November 13 to 18, 1911, showing arrangement of plate and box displays. The booth on the right is the Canyon City district display, which won first premium; the center booth is that of the Intermountain Fruit Journal of Grand Junction; the exhibit on the racks on the left with the banner "From the Wayside Orchard, Grand Junction, Colorado," was made by F. S. Carman, a private exhibitor, who cleaned up over \$1,000 in cash and trade premiums.

in connection with apple expositions, for the reason that many of the members are exhibitors and this fact detracts from the congress.

The following officers were elected for the ensuing year: President, William L. Roylance, Provo, Utah; first vice-president, H. R. Howard, Chattanooga, Tennessee; second vice-president, B. F. Coombs, Kansas City; third vice-president, Fred Goebel, Hutchinson, Kansas; secretary, Clinton L. Oliver, Paonia, Colorado; treasurer, Edward F. Crocker, Denver. Selection of the next place of meeting was left

to the executive committee. An important step taken by the congress was the appointment of a special committee of five to investigate the feasibility of designating a number of points in the West as best adapted to the development of storage facilities and to secure from storage houses at such points equitable rates for storage, or, if necessary, to determine the practicability of fruit growers building their own storage plants for joint usage. Denver was designated as headquarters for the permanent work of the congress.

Canon City, Colorado, to the Front

EARLY in the sixties "Uncle" Jesse Frazier, one of Colorado's pioneers, planted the first apple orchard in Colorado near the town of Canon City, which lies at the head of the Arkansas Valley, one of the most fertile and productive sections in the State of Colorado. It was found that fruit flourished in this section, and by 1880 Canon City district became quite famous for its fruits. As frequently occurs in such cases, Canon City fruit growers felt so secure in their section being the foremost fruit section in the State of Colorado, and so confident that their enviable reputation, which brought them fancy prices for their fruit, was so well established that nothing could take it away from them that they made the great and inexcusable error of relaxing their vigilance in the packing and grading of their fruit. The Canon City district continued to improve its quality of the fruit grown while its grading and packing became steadily worse each year until fruit, no matter how fine, bearing the earmarks of the Canon City district was immediately classed in the minds of the buying public as a third class article.

This condition became so serious that six years ago the Troutmans, pro-

prietors of the Round Crest Orchards, and several other of the prominent Canon City growers determined that through their individual efforts they would improve the grading and packing of the Canon City fruit until the

grade was equal, if not superior, to any other fruit shipped from the State of Colorado. This was an herculean task, one that was not accomplished in one year; in fact it is still in progress. The results are most gratifying. Today it is a mark of quality to have the Canon City stamp on a box of apples. The prices obtained for some of the Canon City fruit this year surpassed any other prices in the state, and Canon City has once more regained its enviable position—that of being the leading fruit section of the State of Colorado. The keeping quality of the Canon City apples was splendidly shown at the American Apple Exposition recently held in Denver, when apples picked in October, 1910, were exhibited. After being in the show room for nearly two weeks these apples, which had been in cold storage nearly fourteen months, could scarcely be distinguished from the apples of this year.

In proof of the great strides made by this district, attention is called to the wonderful record made in the show rooms by this district—Fremont County. For three years in succession they have taken sweepstakes for the best horticultural display at the state fairs, while this present year they took more premiums than any other two counties put together, and at the last Interstate Fair held in Denver, 1910, seventy-five per cent of the total awards were given to this county. At the recent American Apple Exposition held in Denver, 1911, Canon City district took more premiums than any other fruit district in the United States. The Round Crest Orchards alone carried off prizes offered to the value of about two thousand dollars in cash, silver trophies and special premiums, while other Canon City exhibitors held up their end equally well. At this exposition, where the competition was naturally very severe, the Canon City district took first prize on the best twenty-five boxes of Jon-



General view of the monster canvas and frame exhibit hall at the American Apple Exposition, Denver, Colorado, November 13 to 18, 1911. The building was 360 feet in length by 40 feet in width, and was crowded to the doors with fruit and trade machinery exhibits.



Grand sweepstakes display made from the Round Crest Orchards of the Canon City district, at the American Apple Exposition, Denver, Colorado, November 13 to 18, 1911

athans, first prize on the best twenty-five boxes of Grimes Golden, first on the best twenty-five boxes any variety, sweepstakes in Division No. 1, first prize on the best district display of any fruit district in the United States and Canada, and over one hundred other prizes on twenty-five box, ten box, five box, single box and plate exhibits.

There are four thousand acres of bearing orchards now in Canon City district, with six thousand acres of young orchards coming into bearing within the next two to four years. This makes the Canon City district the

largest fruit section in the West. The western slope of Colorado and the Montezuma district are great fruit districts. They have not, however, the railroad facilities and many other natural advantages that are enjoyed at Canon City, which is reached by the Santa Fe road. With the reputation for grading and packing that is fast returning to Canon City district, and with the wonderful scenic attractions that are not surpassed anywhere in Colorado, Canon City and vicinity promises a very bright and wonderful future.—Contributed.

The Michigan Land and Apple Show

By Herman O. Zandir, Ada, Michigan

THE First Michigan Apple and Land Show at Grand Rapids has accomplished what its promoters, Secretary John I. Gibson of the Western Michigan Development Bureau, Traverse City, and Manager J. A. Taylor of the Grand Rapids Evening Press, had intended it should do, namely, to prove that Michigan fruit growers, by using scientific and up-to-date methods in growing, picking, grading apples and other fruit, they can produce as fine fruit as can be grown anywhere. The Coliseum at Grand Rapids, in which the show was held from November 7 to 11 inclusive, was transformed into a veritable Garden of Eden. No more pleasing effect could have been produced than the fruit, flowers and displays which fascinated thousands of people daily. The booths were constructed of white birch logs and poles, while the railings about the displays of the Western Michigan Development Bureau and the "Original Fruit Belt" were made of oak rails. The rustic rails, the white birch, the flowers, the green and autumn foliage, together with the big red and yellow apples, blended beautifully, thus doing away entirely with the mechanical effect. Visitors from the Far West and the East united in saying the effect was

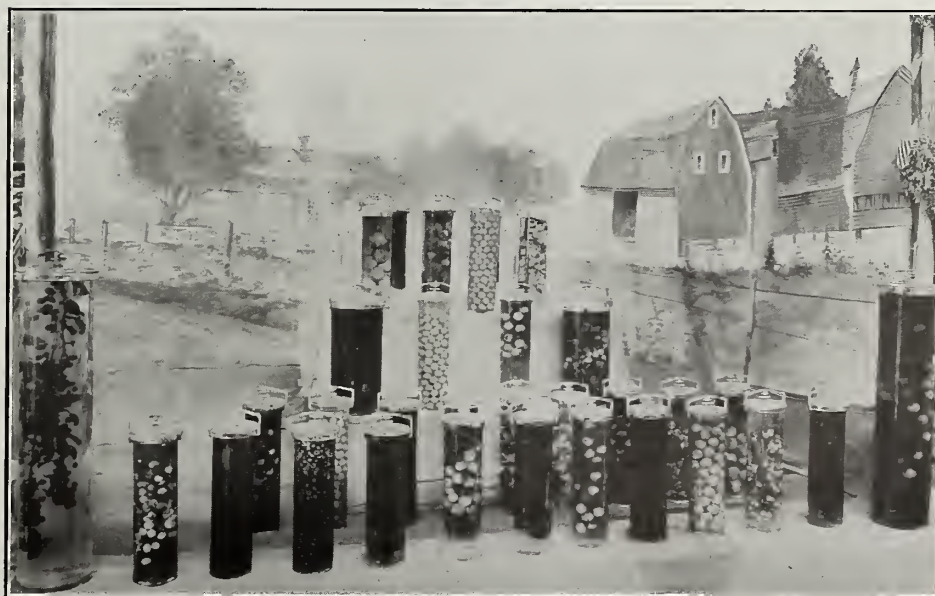
the most beautiful and artistic they had ever seen.

The feature of the show was the display of box apples by the Western Michigan Development Bureau. This was the best put up collection ever seen in Michigan. Thirty-seven varieties were in this huge bank, which

extended the entire length of the north wall of the Coliseum. Another large display was that of the "Original Fruit Belt." The grand prize for individual growers was won by Frank Smith of Traverse City. E. H. Wilce, a grower of Empire, Michigan, displayed some very fine boxes of Snows packed in a special patented carton which does away with bruising of tender varieties.

Thousands of people attended the apple show daily to listen to lectures on scientific fruit growing and to learn how to pack apples in boxes. Professor O. K. White of Michigan Agricultural College and Professor Smith, field and orchard expert of the Western Michigan Development Bureau, gave daily demonstrations in packing apples in boxes. Lectures on fruit growing were given by Professor H. J. Eustace, Paul Rose, Robert D. Graham, Charles E. Bassett, T. A. Farrand, E. O. Ladd and John Gibson. Governor Charles S. Osborn, Lieutenant-Governor J. Q. Ross, Senator William Alden Smith, Congressmen Edward F. Sweet, James C. McLaughlin and other national notables spoke optimistically of Michigan's future as a fruit growing state.

We have often been asked if it is advisable to plant red apples and green apples together in the same orchard. Practically, yes; theoretically, no. You can make a red apple darker by having it planted with a dark red apple than by planting it with a light green or yellow apple. So, for Winesaps, we sometimes recommend the Arkansas Black. It accelerates the dark color. This is a theory we have had under consideration for some time and have found it is true. Generally the Arkansas Black is a shy bearer, but in the West in most irrigated sections it is a good bearer. If we were planting for dark colored apples, we would prefer dark colored ones as pollenizers.



Kalamazoo exhibit at the First Michigan Apple and Land Show, held at Grand Rapids, Michigan, November 7 to 11, 1911



Display from the Intermountain Fruit Fair, held at Boise, Idaho, October, 1911

Idaho Inter-Mountain Fair Held at Boise

By Arthur Hodges

THE last Inter-Mountain Fair, held at Boise, in October, 1911, was the most successful, from an horticultural standpoint, that has ever been held in Idaho, and, according to some authorities, in the entire Northwest. That the exhibits of fruits were of such a high order is due no doubt to the stringent horticultural laws existing in Idaho, whereby a very efficient horticultural inspector and an assistant for each county in the state exercises supervision over the thousands of acres of orchard lands in the state, and compel compliance with the laws regarding spraying. The same department watches closely the various fruit dealers of the state in order to prevent the offering for sale of any infected fruit, and to this reason more than to any other must be given the credit for the marvelous advancement of the horticultural industry in Idaho during the past year over preceding years, as shown by the number and quality of the various exhibits of fruits on display at the fair.

Another factor that probably had something to do with the fruit exhibit's excellence is the fact that the past season has been a bountiful one in Idaho, not only in the line of horticulture but in other lines of agronomy as well. The total yield of fruit fell a little below that of last year, but owing to the co-operation of the growers with the state horticultural department the quality was away ahead of previous years. The educational campaigns carried on by this valuable department of the state is meeting with favor from every man who is interested in the orchard industry, and is resulting in making Idaho fruit known all over the world as the best

there is. During the last fair many boxes of Idaho fruit, and especially apples, were purchased for foreign lands. Several boxes of choice apples were sent direct to the Emperor of Germany, with the compliments of a high official of the German empire who visited the fair.

The only fault that could be found with the horticultural exhibit at the last fair was that too many of the growers produced too many varieties, and did not limit their output to those which are known to thrive best on lands such as that occupied by their orchards. This condition, however, is

being done away with, as the campaigns inaugurated by the Agricultural College of the State University and the state horticultural department, in which farmers and fruit growers are urged to determine the best crops which are suited to their peculiar soils, and then to specialize in those crops only.

During the progress of the fair a number of buyers and representatives of Eastern and Middle Western fruit houses and a few orchardists from the same sections of the country were in attendance for the purpose of comparing the methods pursued in fruit culture in this state with those of their states. The consensus of opinion, freely expressed, was that the fruit growers of their sections were away behind the times in regard to fruit culture. They admitted that the first grade apples of the East and the Middle West were on a par with the second grade apples of the states of the Northwest, and declared that this condition was the result of the laxity of the horticultural laws in the East. "Spraying in the East and Middle West," said these men, "is either not done at all or else in a slipshod manner. The trees are not properly looked after, and the result is that the East and Middle West produce an inferior crop when compared with that of the Northwest, where horticulture is pursued along scientific lines." In so far as the fruit industry in Idaho is concerned, the growers are constantly striving to better the quality of their fruit, and in my opinion the next Inter-Mountain Fair, which will be held in Boise next fall, will show still more wonderful results than have already been achieved, through more careful and scientific treatment of fruit trees.



Bitter Root Valley Irrigation Company's exhibit at the United States Land and Irrigation Exposition, Chicago, November 18 to December 9, 1911

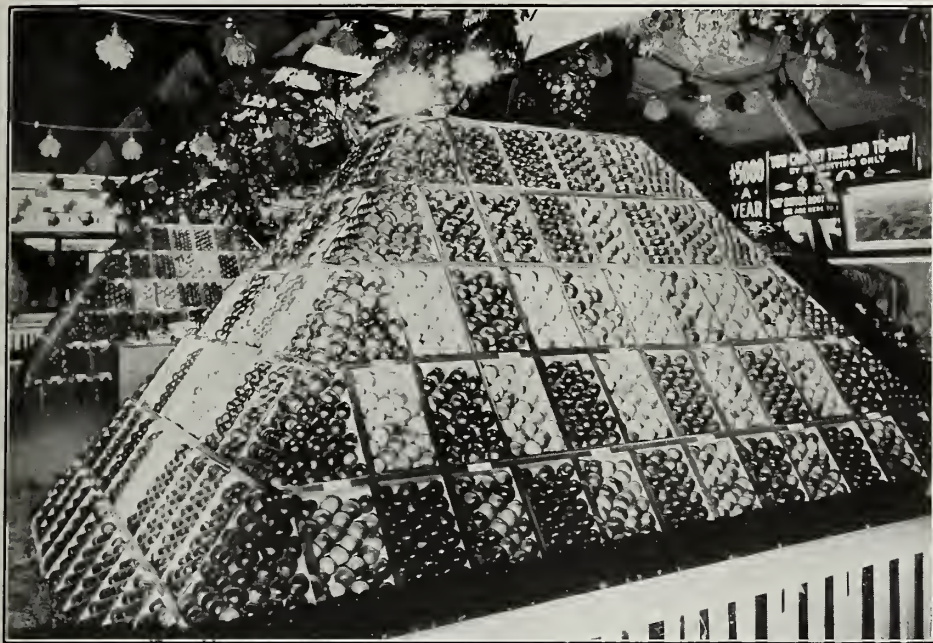
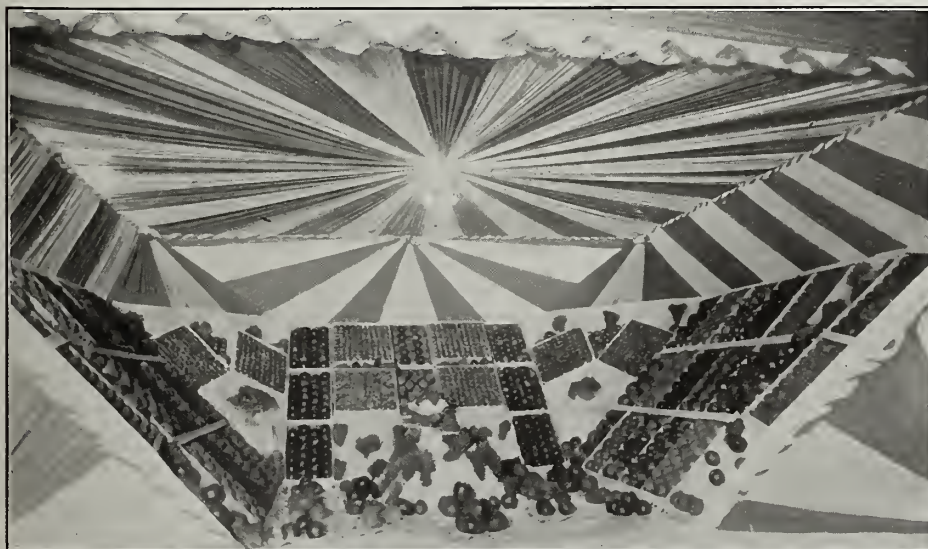


Exhibit made by the Bitter Root Valley Irrigation Company at the United States Land and Irrigation Exposition, Chicago, November 18 to December 9, 1911

Bitter Root Valley at Chicago Land Show

TO say that the exhibit of the Bitter Root Valley at the recent Chicago Land Show was one of the most attractive would be putting it mildly. It gives us much pleasure to reproduce two views of the display. An officer of the Bitter Root Valley Irrigation Company writes "Better Fruit" as follows: "We brought two carloads of exhibits to the show, chiefly apples, making an especial feature of the McIntosh Red. Our exhibit occupied a space having a frontage of fifty feet and approximately the same depth. Two large pyramids of apples, each of which had a base of 225 square feet, ribboned and labeled, and reaching to the extreme height permitted by the rules of the exhibit, were the most salient features. The big Bitter Root Valley potatoes which were on display, cut in halves to substantiate the

claim that they were solid all the way through, weighed more than three pounds each. Two tables of plate and jar displays of apples added greatly to the attractiveness of the exhibit, which was planned by Mr. R. W. Emerson, director of publicity of the Bitter Root Valley Irrigation Company, and Mr. M. L. H. Odea, special advertising representative of the company in Bitter Root Valley. A display of Bitter Root Valley honey and butter attracted much attention. The exhibit furnished a novelty in the form of a very attractively decorated office, with curtains intervening between it and the exhibit proper. A huge electric sign and automatic picture machine and large colored pictures of Bitter Root Valley scenes made the exhibit as conspicuous as any in the land show."



Display made by C. W. Dossett and L. G. Seaton, College Place, Washington, at the Walla Walla County Fair, September 18 to 23, 1911

THE HOLT CATERPILLAR

The problem of cultivating large farms and orchards rapidly and economically has at last been made possible by The Holt Manufacturing Company, of Stockton, California, the makers of the Holt Caterpillar gasoline traction engine. The Holt Manufacturing Company, acknowledged to be the pioneer in the manufacture of agricultural steam tractors, about seven years ago, when the internal combustion engine and the use of gasoline as a fuel in the same had become possible, turned attention to the development of a gasoline farm tractor. In the regular course of the Holt work an order was filled for a special standard farm engine to be used in cultivating reclaimed land in the San Joaquin Valley, California. The conditions were such that it became necessary to use main wheels seven feet six inches in diameter and six feet wide, with auxiliary wheels of the same size. In plowing, still other additional auxiliary wheels with a six-foot extension were utilized, thus making a bearing surface thirty-six feet wide, with eighteen feet of it on each side. This ponderous machine led to the manufacture of the Caterpillar engine. After three years of experiment the Caterpillar was placed on the market by the Holt Company. The Caterpillar engine received its name from its peculiar creeping, crawling motion, and this name is registered in the United States Patent Office. The success that followed was so marked that the capacity of the large factory has been taxed to its utmost in order to keep up with the demands. The satisfaction the Caterpillar is giving to users thereof is attested to by the fact that one company in California, using these tractors for three years, has reordered until now it is using fourteen in its agricultural work. Hundreds of Caterpillars are in use in this country and South America, where, in a recent contest open to competition by the whole world to determine the best tractor for farm purposes, the Caterpillar was awarded the first prize of \$3,000. The Caterpillar traction engine is economical in price, space, weight, operation, maintenance, and is a great saver of time and labor. The work of the Caterpillar is more thorough than that of horses, and the results of this work are apparent in increased production of all crops at a much lower price. The Caterpillar weighs 300 pounds to the horsepower, and its weight is so distributed over a large bearing surface that the actual pressure per pound is less than that of an ordinary man walking over the field. It is, therefore, able to work under all conditions of surface of the soil and whenever the land is in condition to be plowed or cultivated. Soft or wet ground makes no difference to the Caterpillar. It can cross a three-foot ditch and all dead furrows or depressions in the ground, soft or sandy places or wet places caused from leaking or overflowing irrigating ditches. It will climb a thirty per cent grade with a load and will work on sidehills and rolling ground. Therefore, the owner of a Caterpillar is able to do his work early in the spring when the ground is ready. He can also work after the fall rains come on, which with some other types of machine would be impossible. The Caterpillar traction engine is particularly adapted for the use of large orchard owners. It will plow the soil deeper and will plow it cheaper than by any other method in the first preparation for the orchard. After the trees are planted it will plow and cultivate the soft land and cover so much ground every day that it enables a large project to be handled economically and profitably. Mechanical details have all been carefully worked out by skilled and experienced engineers. The engine itself is made in the works of The Holt Manufacturing Company, after its own special design. It is especially made for the heavy duty of an agricultural traction engine. All moving parts of the Caterpillar are accessible and most of the engine can be reached by a man standing on the ground. The mechanical construction of the Caterpillar is such that all the power of the engine may be applied to one side and the other side run idle. In that way the Caterpillar is turned practically at right angles. While the Caterpillar is eighteen feet in length over all it can be turned in a circle twenty-five feet in diameter. It also has a power pulley attachment and can be used as a stationary engine whenever such power may be desired. The Caterpillar is used largely in California in the cultivating and preparing of sugar beet land and bean land, where the preparation of the seed bed is of necessity carefully and thoroughly done. The Caterpillar is flexible in operation and its wonderful adaptability to all kinds of road and farm work makes it the ideal farm and orchard tractor.*

Careful Planting of Apple Orchards in the State of Idaho

By J. R. Shinn, University Experiment Station, Moscow, Idaho

CAREFUL attention should be paid to the selection of a site for an apple orchard. For the home planting the site is very often predetermined and the trees must be placed on the area left after house and lawn have been provided. Where choice is permitted it is always important that the orchard should be somewhat elevated above the immediate surrounding country in order that free air drainage may be secured and late spring frosts thus avoided. Cold air is heavier than warm air; it therefore slides down the hillsides into the valleys. This condition which permits the cold air to settle away is said to provide air drainage, a factor of extreme importance to the apple orchardist. For this purpose gently sloping land is preferable to level land, though in irrigation sections it is more difficult to water. A fall of two or three feet to every hundred is very satisfactory, and will aid materially in keeping the plantation free from the ravages of late spring frosts. On the other hand, too steep slopes should be avoided for the reason that they cannot be tilled, irrigated and sprayed satisfactorily. A greater factor in facilitating air drainage is a draw or gully passing through or near the orchard. This element should be taken advantage of where conditions permit. An orchard should never be placed in low-lying basins or "pockets," for such positions are devoid of proper air drainage. Sloping land also tends to provide good water drainage, which is an essential consideration. Fruit trees are short lived, grow slowly, crookedly and often have a twisted trunk on land which is too wet.

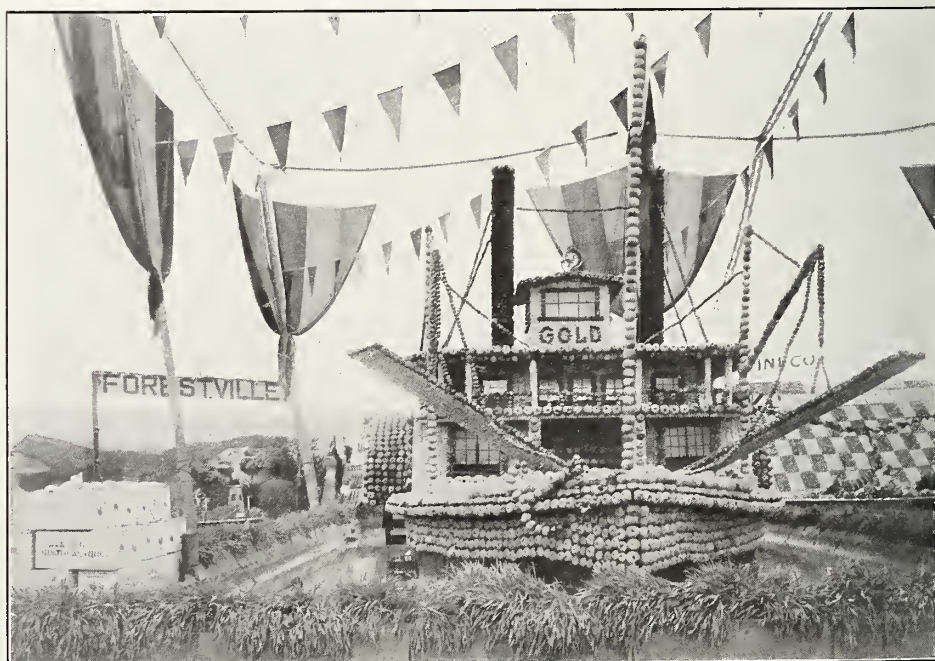
Northern or eastern slopes are generally regarded as best for apple orchards owing to the fact that they are later in warming up in the spring than slopes in other directions. This condition results in retarding the blooming period of trees, which is often sufficient to avoid injury from frost in many seasons. In most sections of Idaho it may be desirable to select a slope away from the strong prevailing winds, as such winds do untold damage to both crops and trees; slopes to the north or east generally satisfy this condition. Moreover, the soil on the northern and eastern slopes is usually deeper and richer than that found on slopes to the south or west. The reason for this condition is due to the fact that fine, rich dirt, leaves, straw and various materials are gathered from the southern and western slopes by the prevailing westerly winds and are deposited upon slopes in the opposite directions. The continued depositing of this material has added much organic matter to this leeward soil which has resulted in producing not only rich, deep soil, but also one capable of retaining moisture. On the other hand, southern slopes are

earlier, and, therefore, permit a longer growing season. Besides, trees situated on such exposures receive large amounts of sunshine, which results in earlier maturing fruit with higher color and sometimes with better flavor. From these conditions it is obvious that in sections where the growing season is short and where the fruit is likely to be poorly colored, a southern exposure may be preferable to all others. In the higher altitudes these factors should be borne in mind as highly significant; any element that will prolong the season for late winter apples and induce them to take on their full degree of color should be favored. With the early winter varieties the northern and eastern slope usually permits the fruit to properly mature and to become well colored. However, owing to the fact that the soil on the south exposure is drier it naturally follows that the fruit produced will be smaller unless some means be devised to overcome this obstacle. With the proper application of manure and the intelligent use of cover crops on such soils this difficulty may be largely obviated. Subjected to such treatment, a southeastern cove may be regarded as the best site for the higher altitudes, at least in Northern Idaho. This kind of a site, properly chosen, may combine not only the warmth of the southern exposure but the deeper, richer and more moist soil of the northern slope may also be secured.

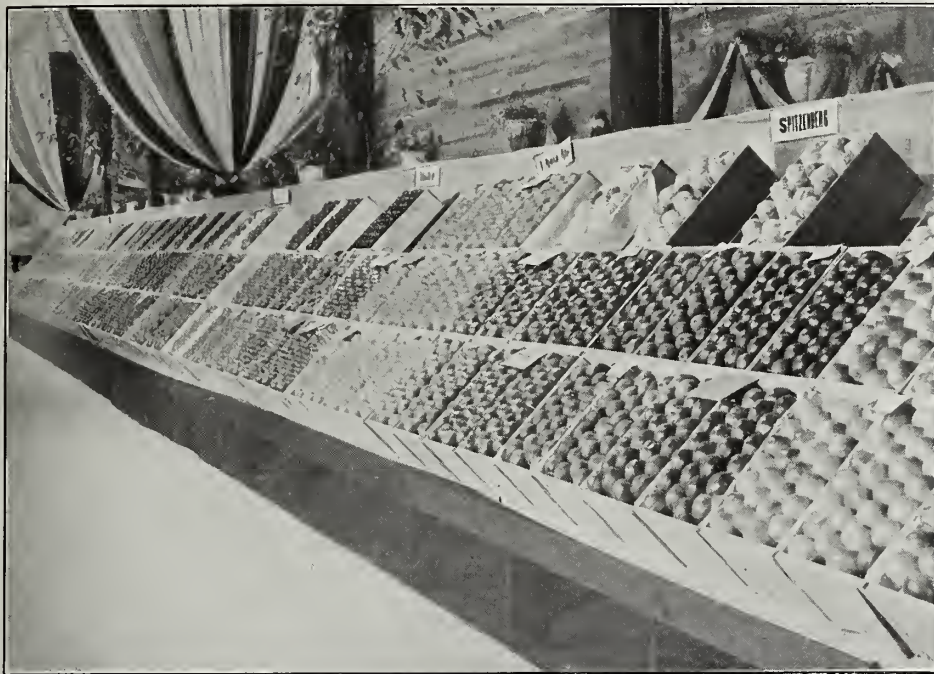
Large bodies of fresh water, either lakes or rivers, exercise an ameliorating influence upon the climate in their immediate vicinity, and orchard sites selected on slopes which extend toward the water are more immune from rad-

ical atmospheric changes. The slope on the side toward which the prevailing winds blow is preferable because the air in passing over the water becomes modified in temperature and its moisture content is increased. These latter conditions make such sites warmer in winter and cooler in summer; besides they strongly tend to prevent the occurrence of late spring frosts. From this somewhat extended discussion of orchard sites the prospective apple grower should be able to choose the one in his locality that has the most to offer. By coupling this information with that secured from local growers no mistake should be made regarding the matter.

Soils from which native forests have been cleared are best adapted to growing the apple. These are in good physical condition, so that ample surface drainage and subdrainage are supplied; besides, they have a plentiful supply of plant food which is essential to a healthy wood growth and a finely developed, well matured crop of fruit. It has been repeatedly noted that fruit from such soils reaches the highest degrees of perfection both from point of quality and color. However, soils which may be brought to a state similar to that found on old forest sites may be regarded as being well adapted to the growth of the apple. Medium clay loams adapt themselves admirably to the apple, and if these possess, or are made to possess, the following requisites orchards may be planted upon them successfully. These important requisites are good water drainage, good texture and sufficient richness in plant food. As suggested in a preceding paragraph, a sloping site



Feature exhibit of the "Steamer Gold," decorated entirely of apples, and which took first prize. It was represented as floating in water. The paddles would revolve all the time and at intervals the bell would ring. The interior was all lighted with electric lights and the feature made a beautiful appearance. Gravenstein Apple Show, Sebastopol, California, August 21 to 26, 1911



View of an exhibit at the Summerland Fruit Exposition, Summerland, British Columbia, 1911

usually affords good water drainage, but this is not always the case. Where good natural drainage is not found tile drainage should be provided, because apple trees will not endure "wet feet." The phrase "good texture" means that a soil possessing this characteristic will work up loose and mellow without being hard and lumpy. Such soils are easily worked and hold plenty of moisture. Most of the good orchard sites in Idaho are sufficiently rich in plant food, so there is no direct need of applying plant food at the time of planting.

After the site and soil have been selected the subject of the preparation of the land for the reception of the trees should occupy the attention of the orchardist. The thorough preparation of the land should be regarded as a very important element in planting out an orchard. An apple orchard is very different in its requirements than are annual crops, yet how frequently does it occur that the land for it receives even less attention than does the land for corn or wheat. Many prospective orchardists propound as their first question, "How are we going to rid the land of sagebrush or stumps for setting our trees?" They think when this matter has received attention that trees may be set at once. While it is true that some lands may be turned over and planted immediately, yet most experienced growers and observers regard the practice as of doubtful value. The wiser plan is to anticipate planting two or three years in advance and devote this time to growing a rotation of crops which will bring the soil into the best state of cultivation. After the roots of the trees have taken possession of the soil deep plowing cannot be done, and as this is essential the soil should be plowed deeply before planting. For arid lands in sagebrush sections the need of organic matter in the soil is

apparent to the casual observer, and no crops act so beneficial in increasing this organic matter as alfalfa or clover. After clearing new lands alfalfa or clover may be sown, which should be allowed to remain one or two seasons, after which it is turned under. By virtue of their extensive root systems better crops than these are not known for breaking up soils underlain with stiff clay. Where soils are sufficiently supplied with organic matter there is less need for the above practice. New ground, however rich, needs to be subdued before trees are set upon it. Such lands are apt to be full of inequalities, hence every effort should be made to discover and remedy the poor spots that need manuring and the wet spots that need drainage, so that when planted the trees may grow evenly and rapidly from the very start. The cereal crops, such as wheat and oats, serve admirably as indices for bringing out these inequalities. Immediately preceding the planting of the orchard a crop that requires thorough cultivation, such as potatoes, is highly beneficial in putting the finishing touches upon this preparatory cropping system.

Sub-soil plowing should be resorted to in all cases where the lands are underlain by a stiff stratum. This is accomplished by running a sub-soil plow in the furrow left by the ordinary breaking plow, loosening the soil to an additional depth of twelve to eighteen inches. Treating soils in this manner not only deepens them but promotes good drainage and increases their water holding capacity. It is not always essential that the whole area of the ground be sub-soiled before the trees are set. A strip of six or eight feet wide on which the trees are planted furnishes sufficient sub-soiling for the first year. This sub-soiled area may be increased by sub-soiling a strip three to four feet wide on each side of it annually until the whole space is

covered. This practice stirs the ground deeply for the roots to penetrate in a way that could never be secured after the roots occupy the soil. Instead of using a sub-soil plow, where the hardpan is very pronounced, holes may be blasted to considerable depth by the explosion of dynamite, though it is questionable whether a soil of such tenacious character should be used for an orchard. The use of such crops as clover and alfalfa exercise a similar effect to that produced by sub-soiling. The autumn months are regarded as the best time to prepare all lands that are to be planted to apple orchards. This exposes the land to the ameliorating effects of frosts, allowing such soil to catch and hold the rainfall of winter, and permits the sub-soil to become sufficiently settled to re-establish capillary action between it and the lower soil strata while still keeping the soil in loose condition for the deep penetration of the roots. If the autumn preparation is thoroughly done the stirring of the surface is all that will be needed in the spring.

Aside from the fact that under drainage is desirable in carrying off surplus water from the soil it has many other beneficial qualities, only one of which needs mentioning in this connection. Arid places under irrigation, unless possessing good natural drainage, are prone to become alkaline in the course of time. This condition is due to the fact that all fertile soils contain alkaline salts to a greater or less degree. These salts are readily dissolved by the water entering such soils. As most water must pass off eventually, either through the plant or by evaporation, there is a marked accumulation of these salts in the surface layers of the soil, such material being dissolved in the lower strata and then left behind at the surface when the water is used by the plant or is evaporated. Under drainage is the great preventive as well as the sovereign remedy for alkali. Complete saturation of the soil with water once a year and provision for under drainage to carry away the surplus means that the excess of these salts will be washed out and removed entirely. Attention is directed to this point particularly because many of the orchardists have suffered great losses and their orchards have been ruined because they have failed to observe this factor. As stated before, natural drainage is the most desirable for orchards, but where it does not exist tile drainage should be resorted to. The orchardist should take after this matter carefully before the trees are planted. The distance between drains depends altogether upon the kind of soil. In soils that are loose and crumbly tiles may be laid thirty to sixty feet apart, while on heavy impervious soils less distances should be allowed. All tile drains should be placed below the frost line, and it is questionable whether it is advisable to place them at a depth less than three feet in an apple orchard. It should be remembered that tile drains among

fruit trees are liable to become choked with tree roots, in which event they must be dug up and cleaned out as often as a diminished flow of water is noted.

Where irrigation is practiced the method that is to be used in irrigating the orchard should be considered before the trees are planted. Of course, before the ground is plowed, preparatory to planting, it is essential that it be watered sufficiently to make the plowing easy, but the system thus used may not always correspond to the one to be used after the trees occupy the land. In Idaho undoubtedly the furrow system of irrigation, modified to suit the requirements of the orchard, is the best method. Mr. Elias Nelson, irrigationist for the station, gives the following directions for the installation of this system: "To install the furrow system the procedure is as follows: When the conformation of the land permits it, the head ditches are located 300 to 500 feet apart and at right angles to the furrows. When they must be made on contours they should have a grade of one and three-quarters to two and one-half inches to each one hundred feet and their distance apart be such that the furrows are 300 to 500 feet long. Check boxes are placed in the head ditches at such distances apart that the splash board will raise the water high enough to flow readily into all the furrows. The splash boards are so adjusted that the excess water in each section flows into the next below until the whole head of water is being distributed. Each head ditch below the highest one catches the water from the furrows above it and redistributes it. To divert the water from the head ditches small gates or lath tubes are placed in the ditch bank. Spouts one and one-half to two feet long made of lath will usually supply sufficient water for each furrow. However, when a larger stream than the lath spouts divert is needed tubes may be made of half-inch lumber of the proper width. The spouts are placed in the ditch banks just below the surface of the water. When the splash boards are in place the water will flow through the spouts, and when any section of the orchard has received sufficient water the boards are removed and the water then drops below the level of the spouts. In porous soil the furrows should be 300 to 400 feet long. In soil that does not absorb water readily they may be much longer, and a smaller stream of water should be run for a longer time. The automatic feature of the system and the even distribution of water which it insures makes it very advantageous. Flooding should never be practiced in orchards, nor should water ever be allowed to come in contact with the trunks of trees."

The beginning of most successful enterprises makes its first definite appearance on paper, and such a beginning is as essential to successful orcharding as to any other business. Everyone would pronounce a contractor to be foolish who should under-



The Dalles Business Men's Association exhibit, The Dalles, 1911

take the erection of a modern dwelling without a plan. Such an undertaking may involve only the expenditure of a few months' labor, while the building or growing of an apple orchard consumes many years. Obviously, then, it is extreme folly for an orchard planter to begin setting trees without preparing a plan of as great details as that required of the man who builds a house. A carefully prepared plan, drawn to scale on stiff drawing paper and inked in, constitutes an important element in orchard planting. In making a plan the planter should map out definitely the kinds of varieties, the number of each kind and the exact location for each tree for his orchard before a tree is purchased. This means that he will decide all of the details of selecting varieties, and the system and distances of planting in a sane, considerate manner.

The selection of varieties of apples is apparently one of the first problems that confronts the prospective fruit grower, whether he expects to grow apples for home use or to grow them for shipping to distant markets. In a new country this problem has even been a serious one, so it is not surprising that for Idaho it should be uppermost in the minds of the newer class of citizens. There are so many varieties and varying notions regarding the merits of each that this tends to make the question very perplexing. Moreover, there are so many fruit growing sections in the state that it is not always safe to conclude that because a variety does well in one section that it will do equally well in another. Furthermore, varieties that may be well adapted to home uses may be decidedly lacking as commercial sorts. Tender fruits are not adapted for shipping to distant markets because they bruise easily, consequently their keeping qualities are poor. Besides, color and size are essential in good market apples, while these elements are not of as great importance as quality for home use. Naturally, then,

the selection of kinds of apples depends upon the use to which the orchard is to be devoted, whether for producing apples for home use or for market purposes.

An inquiry in the markets will show that apples finding readiest sale at highest prices are fairly large and highly colored. No color seems to meet the customer's fancy quite so well as a clear bright red, although a few yellow sorts of known quality are also in demand. It does not necessarily follow that such apples are sold in greatest quantities, but it does mean that they should bring large returns to the grower. Where the freight rates are high, as they are on Western apples, this is an additional reason necessitating high market prices for this product. The people who have money for purchasing fine fruit are also endowed with a good understanding of the merits of the leading varieties, and are quite particular in their demands for certain kinds. As a general rule these people have been accustomed to apples all their lives, and this experience has developed an acquaintance not only with the merits of these varieties but also with the season of the year when each kind is at its prime. While they would not hesitate in paying a good round price for a box of Jonathans at Christmas time they would display considerable reluctance when offered the same box a month later even at a reduced price. The same is true of other varieties. The point is that in selecting varieties the orchardist must take a long look into the future and weigh well the bearing which the season of ripening and the present acreage now planted to a variety will have upon the returns of the orchard he is planting. The aim of Idaho orchardists should be to keep the market well supplied with the best varieties for all seasons, not to overstock the market at one season and at another furnish an insufficient supply.

At present the most popular varieties of apples produced in Idaho and sell-



Exhibit made by Fred Parr and Albert Oleson, under the auspices of the Milton and Freewater Commercial Club, and the Milton Fruit Growers' Union, at the Walla Walla County Fair, held September 18 to 23, 1911

ing on the Eastern and European markets are the Jonathan, Rome Beauty, Winesap and Grimes. In the warm valleys under irrigation in Southern Idaho, and at the lower elevations in other parts of the state, these varieties attain the highest degree of perfection. With the exception of the Winesap, which requires a long season to mature, all are adapted to the "Panhandle" section of Northern Idaho. It is thought by some that the Wagener and the McIntosh Red are better adapted to Northern Idaho than the Rome Beauty. They are undoubtedly popular sorts, and should be planted where seasons are short and where early maturing varieties are desired. The proportion of each variety to be planted deserves careful attention. In the warm valleys it is perhaps best to devote only one-third of the orchard to early winter sorts, such as the Jonathan and Grimes, with the other two-thirds equally divided between the Rome Beauty and Winesaps, which are late winter varieties. In sections where the growing season is short, by virtue of which the early winter varieties really become late winter sorts, and the fall varieties, such as the McIntosh Red and Wagener, come into season in early winter, the same ratio should be maintained. It will be noted that only a few varieties have been mentioned, and this has been done advisedly. The most common mistake made by commercial orchardists is in planting too many varieties. Instead of confining their attention to the best of a list of varieties adapted to a locality they plant of each kind; when harvest time comes they have more expense and trouble than is necessary to handle the same quantity of a few selected varieties.

The choice of apples for home use and local market offers an opportunity for personal preference to a large degree. Most any of the varieties that have proven themselves well adapted to home use and home markets in other sections of the United States can usually be grown successfully in Idaho. If one has developed a particular fondness for special sorts those are the ones

he should plant, not only because their quality suits but also because they are more likely to get better attention. Select the varieties that suit best. However, for the sake of those who are unacquainted with many varieties the following list has been prepared, classing them according to season of ripening: For early summer, Early Harvest, Yellow Transparent, Red June, Red Astrachan; for mid-summer, Oldenburg, Benoni, Sweet Bough, Chennango; for fall, Wealthy, Maiden Blush, Jefferis, Gravenstein, Mother, Fall Pippin, McIntosh, Tompkins King; for early winter, Jonathan, Grimes, Yellow Bellflower, Delicious, and for late winter, Spitzenberg, Stayman Winesap, Aiken, Winter Banana, Rhode Island Greening, York Imperial, Roxbury Russet, Ben Davis.

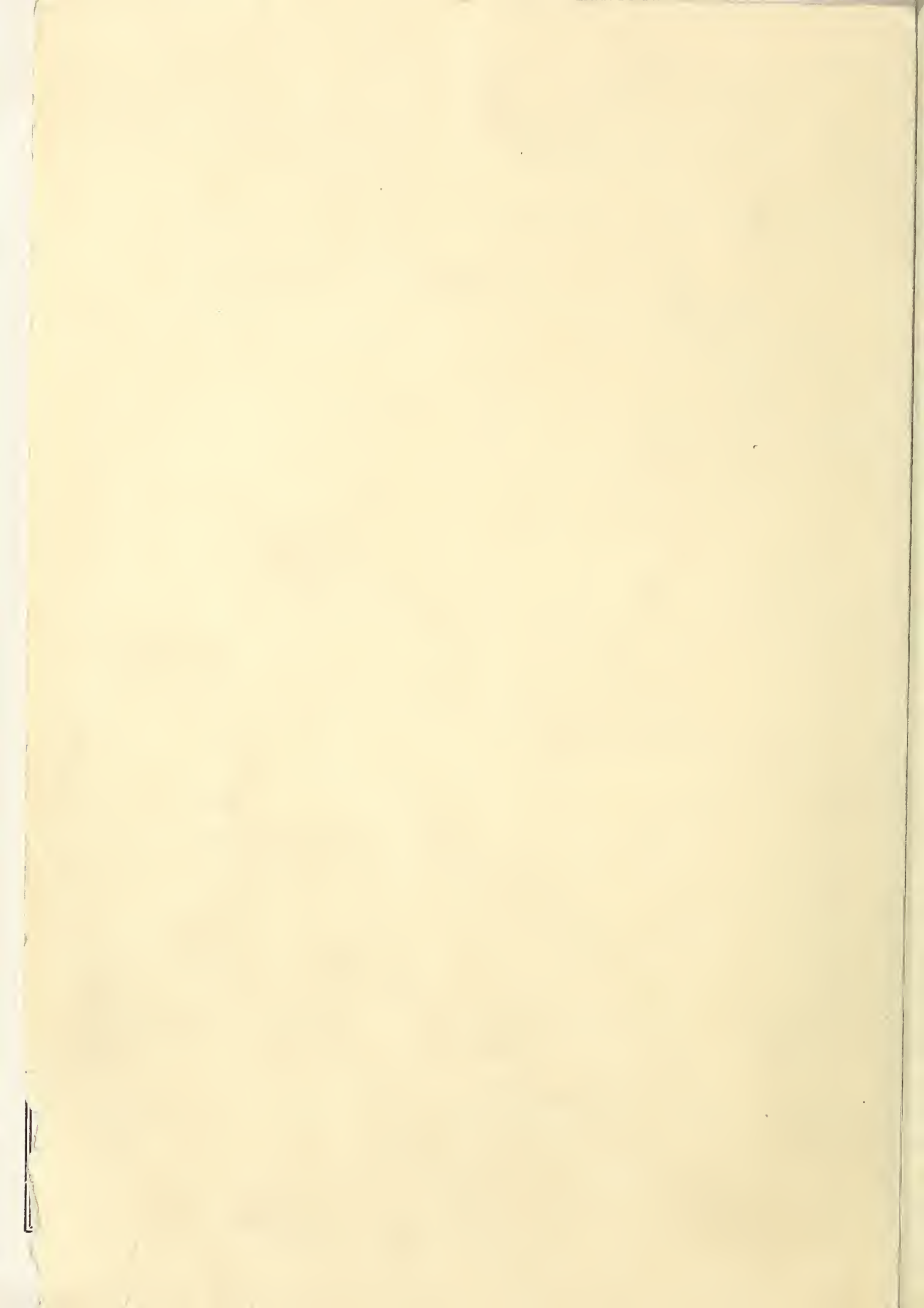
There are several systems of planting or laying out orchards, the chief of which are known as the squares, hexagons or sextuple, quincunx and contour. Squares: Orchards laid out with rows equal distances apart and running at right angles to each other give a system of squares with a tree at every corner. This system constitutes the simplest method of arrangement and is very satisfactory from the viewpoint of convenience of cultivation and general appearance. Practically all the orchards in the state are laid out according to this plan. Hexagons: This system gets its name from the fact that six trees are planted around a seventh in such a manner that a line drawn through these encircling trees make a hexagon. Each tree is equidistant from all of its neighbors, thereby utilizing the ground to a better advantage than where squares are used. Aside from this point it is claimed that irrigation is facilitated. About fifteen per cent more trees can be planted per acre by this method than by the square system. It is probably a better system than squares where land values are high or are likely to become high. Quincunx: The quincunx method of laying out an orchard consists of arranging trees the same as in squares, with a tree in the middle of every square. This

middle tree is usually temporary and is known as a "filler," which should only be allowed to remain until the space is needed by the permanent trees. The fact that fillers can be used most advantageously by this method is the only reason why it has maintained its recognition among horticulturists. It is decidedly inconvenient when it comes to cultivating and irrigating, and for this reason has little application to the orchards of Idaho. Contour: The contour system of planting consists of laying out an orchard on sloping ground or on hills in such a manner that the trees of a single row are practically on the same level. Where irrigation is practiced it is customary to allow a grade of one and three-quarters to two and one-half inches for every one hundred feet of flow. Such a scheme facilitates cultivation and irrigation, and is very useful on some of the best orchard sites.

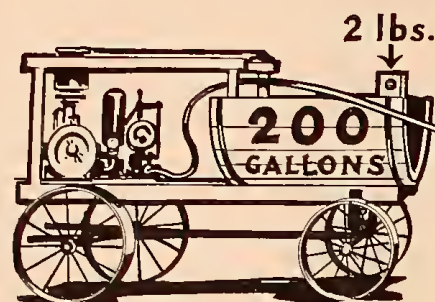
In this state it is not wise to plant standard apple trees closer than thirty-three feet each way, and it is very probable that a distance approximating forty feet will in time prove as well adapted to our needs as has been the case in eastern orchards. Experience has demonstrated that it is poor judgment and lack of foresight that leads men to set apple trees close together. Not many crops of apples are taken from an orchard before the tops of the trees have a diameter of twenty feet. For instance, orchards have been observed where the side branches of Jonathan trees seven years old were touching their neighbors, indicating thereby that the battle for space had already begun. Inasmuch as the root system of apple trees are more extensive than the tops it necessarily follows that where limbs are touching sharp competition already exists between the roots of the various trees. Where an orchard of this description has been grown the only safe system for the orchardist to follow is to remove every other tree. Experience and observation have shown that it is far easier to say that these extra trees or "fillers" shall be removed than it is to take them out when they are apparently in their prime and seem to offer such a source for increasing the returns of the plantation. Delay in their removal, however, always proves injurious to the permanent trees. Owing to this fact that the average orchardist has not the will power to remove "fillers" when they should be removed, it is far safer to dispense with their use entirely and to place all trees in their permanent positions. Since the root system of dwarf trees is smaller they can be planted much closer than standards. It is customary to plant dwarfs on Doucin stocks twenty feet apart each way and those on Paradise stock ten feet apart.

Aside from the consideration of systems of planting, varieties to be planted and the distance of planting, a carefully planned orchard should involve

Continued on page 56



BETTER SPRAYS MEANS BETTER FRUITS



"ORTHO 40," the New Arsenite Compound, Kills Codling Moth Without Damage to Foliage or Fruit

"Ortho 40" Costs Less, Does More

"Ortho 40" Kills the Worms and Does It Quickly

The greatest pest of the apple grower is the codling moth. Horticulturists and entomologists have given years to the study of this pest, and its life history is well known.

Its greatest havoc is wrought at two distinct seasons of the year. The first is in the spring. The second, during the months of July and August, when the second generation of worms are hatched and eat their way into the heart of the apple.

The time when spraying is effective is short, and a poison of more than ordinary deadliness is necessary to stop the codling moth. Arsenic has been found to be the only effective poison for combatting it. Pure arsenic dissolves readily in water, burns the foliage and injures the soil, thus making its use impracticable. Many arsenical compounds have been tried, and those that would kill the worms, damaged tree and soil.

After long and costly experimenting a compound was invented containing zinc arsenite. It is practically insoluble in water, yet when eaten by the worms is at once dissolved with deadly and almost instantaneous effect. This compound is offered to the apple grower under the name

"Ortho 40"

and its results are guaranteed when used as directed. It has been used in various sections from California to Colorado since 1907, and has never failed to absolutely control the codling moth wherever tried.

One Watsonville grower offered a dollar for every wormy apple that could be found in his forty-acre orchard after he had sprayed with "Ortho 40." We offered another dollar. Only two wormy apples were found in forty acres.

One of the largest fruit companies in the Pacific Northwest wrote: "We have not been able to find one single wormy apple in our 100-acre orchard." We have dozens of testimonials like these and will gladly send the names and addresses of growers who can vouch for "Ortho 40."

But you are interested in the results of "Ortho 40" in your orchard. We claim, and are ready to back up our claims, that "Ortho 40" will control the codling moth better than any other form of spray, and if properly used, will increase the average grade of your pack 20 per cent. Get our booklet on spraying. It explains in detail how and why.

CALIFORNIA SPRAY CHEMICAL COMPANY

Watsonville, California

Warehouse, Portland, Oregon. Also Distributors in All Western Fruit Growing Sections

Our Guarantee

We guarantee "Ortho 40" to be made from the best commercial chemicals, and to contain 40 per cent of arsenious oxide in combination. Properly applied, it will control the codling moth better than any other spray material.

If, after using this material, you are not satisfied, we will refund the purchase price. Sign and mail the attached coupon today, and it will bring you a booklet containing much valuable information on spraying, and will show you how to increase the profit in your orchard. *It will show you how to save money in your spraying. It will tell you how other growers have increased the grade of their pack. It is a mine of information for the apple grower.*

Send for it today.

The quickest and surest way to increase the grade of your pack is by careful spraying. For the apple grower, spraying is a necessity. His problem is to determine what is the most effective and economical spray.

Many growers are finding the way to better fruit and cheaper growing methods through "Ortho 40." "Ortho 40" is a white, fluffy powder, containing 40 per cent of arsenious oxide in combination with other chemicals that make the powder, as a whole, insoluble in water, yet readily dissolved by the juices secreted in the intestinal tract of the caterpillar. It is applied to the blossoms and leaves in the form of a spray. "Ortho 40" is packed in cartons holding two pounds, this being enough for 200 gallons of spray. The powder is dumped directly into the sprayer tank, no mixing being necessary.

In 40-pound lots "Ortho 40" costs 20 cents a pound, or 40 cents for 200 gallons of spray. This is less than half the cost of any other arsenical compound. Because of its large covering power, a lighter spray can be applied, resulting in a material saving of time and labor, as well as chemicals.

When the water of the spray evaporates, "Ortho 40" remains on the leaves and blossoms in the form of a thin film. Dew or fog does not dissolve it, thus preventing damage to foliage, so common with other arsenical compounds. Instead, the poison remains in such form that when the caterpillar begins to feed, a small particle of "Ortho 40" is sure to enter his stomach, resulting in quick and certain death.

Its use, dating back to 1907, has resulted in a uniform record of success, and we absolutely guarantee "Ortho 40" to more completely control the codling moth than any other compound known to horticulturists.

For complete information regarding "Ortho 40" and its remarkable results, sign and mail return coupon today.



California Spray Chemical Company, Watsonville, California
Gentlemen: I am interested in improving the grade of my apples and reducing the cost of spraying. Will you please send me your booklet, "How to Reduce the Cost of Spraying One-half," and give me the name of your nearest distributor, where "Ortho 40" can be obtained. Very truly yours,
Name _____ P. O. _____ County _____ State _____ Rural No. _____

BETTER FRUIT

HOOD RIVER, OREGON

OFFICIAL ORGAN OF
THE NORTHWEST FRUIT GROWERS' ASSOCIATION

A MONTHLY ILLUSTRATED MAGAZINE
PUBLISHED IN THE INTEREST OF MODERN
FRUIT GROWING AND MARKETING

ALL COMMUNICATIONS SHOULD BE ADDRESSED AND
REMITTANCES MADE PAYABLE TO

Better Fruit Publishing Company

E. H. SHEPARD

EDITOR AND PUBLISHER

H. E. VAN DEMAN, *Contributing Editor*

STATE ASSOCIATE EDITORS

OREGON

A. B. CORDLEY, *Entomologist*, Corvallis

C. I. LEWIS, *Horticulturist*, Corvallis

P. J. O'GARA, *Pathologist and Entomologist*,
Medford

WASHINGTON

A. L. MELANDER, *Entomologist*, Pullman

COLORADO

C. P. GILLETTE, *Director and Entomologist*,
Fort Collins

E. B. HOUSE, *Chief of Department of Civil and
Irrigation Engineering*, State Agricultural
College, Fort Collins

E. P. TAYLOR, *Horticulturist*, Grand Junction

IDAHO

W. H. WICKS, *Horticulturist*, Moscow

W. S. THORNER, *Horticulturist*, Lewiston

UTAH

DR. E. D. BALL, *Director and Entomologist*,
Logan

LEON D. BATCHELOR, *Horticulturist*, Logan

MONTANA

O. B. WHIPPLE, *Horticulturist*, Bozeman

CALIFORNIA

C. W. WOODWORTH, *Entomologist*, Berkeley

W. H. VOLCK, *Entomologist*, Watsonville

BRITISH COLUMBIA

R. M. WINSLOW, *Provincial Horticulturist*,
Victoria

SUBSCRIPTION PRICE \$1.00 PER YEAR

IN ADVANCE IN UNITED STATES AND CANADA
FOREIGN SUBSCRIPTIONS, *Including Postage*, \$1.50

ADVERTISING RATES ON APPLICATION

Entered as second-class matter December 27,
1906, at the Postoffice at Hood River, Oregon,
under Act of Congress of March 3, 1879.

The report of James Wilson, Secretary of Agriculture, has just reached our desk, with a synopsis of brief comments. The heading of each article is the comment above referred to. To the more important of these pertaining to the fruit business we have added a few further comments from the grower's point of view, and we hope and believe that in so doing we are expressing the general sentiment of the fruit growers, particularly in the Northwest.

"Would it be asking too much of our universities to have them educate more plant pathologists and road engineers?" The agricultural colleges in the Northwestern states and California have given the department of horticulture special attention during the last few years and today are recognized as among the leading institutions in this class of work. They are turning out increased numbers of plant pathologists each year and as yet have not been able to supply the demand. The reason is clear. Orchardng in the Northwest is rapidly developing along scientific lines and there is no class of farmer that realizes more fully the importance of expert plant pathologists, entomologists and horticulturists than the fruit growers. This is evidenced by the fact that districts are employing such men to study general conditions, carry on investigations and locate the causes of

trouble as they come along and provide remedies. Large orchardists are seeking the services of expert horticulturists and at the present time the Northwestern institutions are unable to supply the demand, all of which is evidence of the value of Secretary Wilson's comment and proof that the fruit industry of the Northwest is being done on a scientific basis and that growers are endeavoring to improve every feature of fruit growing.

"Every country in the world that has diseased plants that cannot be sold at home can ship them to us. This results in great loss. The chestnut disease here is an illustration." It has long been a well known fact among fruit growers that nearly all diseases that are causing us the greatest trouble are diseases that are imported to this country. The codling moth, the San Jose scale, the Gypsy moth and the brown tail moth are striking examples, and these, without mentioning others too numerous to speak of, is evidence that closer inspection should be given to all the nursery and plant stock that is imported into this country. The Mediterranean fly is one of the most serious pests known, and during the last year more or less alarm has been occasioned by the possible introducing of this pest from the Sandwich Islands. It is already felt that we have all the pests and diseases we want, and a great many more, consequently we believe that every fruit grower would back up in every way possible any efforts on the part of the government to bring about a better and more thorough inspection of all imported nursery stock.

"After years of experimentation we find we can grow Egyptian cotton in Southern California and bulbs in the State of Washington." It has been known for some time that bulbs can be produced in the State of Washington that are as fine, if not superior, to the finest bulbs grown in Holland. Something ought to be done to foster this industry. If the bulb growing districts in the State of Washington can succeed in getting men to go into this business who have the necessary capital it will be the cause of a great industry being built up in this state. Money for bulbs will be spent at home instead of being sent abroad.

"The day is not very far distant when we will cease to import potash." Potash is one of the most successful fertilizers in use, and for years Germany has controlled this industry. As we understand it, more or less trouble has arisen during recent years in reference to conditions prevailing in the potash industry; therefore it must be very gratifying to the fruit grower to know that the United States has potash fields sufficient to supply all the fertilizer in the form of potash that this country will need for years, perhaps centuries to come, and at a much lower price than we have been paying for potash

obtained abroad. Not only this, but the industry can be built up at home and will help to contribute to the wealth and welfare of the United States. The phosphate beds are abundant for all possible uses, and among the principal states mentioned in which deposits exist are Florida, Tennessee, Kentucky and Idaho.

"If good roads from the producer to the consumer were general the benefits to both would be considerable." Now, there is no industry that calls for better roads than the fruit industry. This is evident to every fruit grower, and probably is more or less evident to every consumer. Whenever a consumer receives bruised fruit he knows it has been roughly handled along the line. Frequently this bruising takes place when the grower hauls it over the rough road from his farm to the depot. Fruit sections in the Northwest seem to have realized this, and consequently every effort is being made not only to improve the roads but in many districts to build roads that will be permanent. Perhaps the largest good road movement on foot is in Southern Oregon, where they have laid out greater mileage than in any other section, the counties being bonded to pay for the work. In Hood River macadamized roads are being laid out in the form of a belt line around the valley, with side features to follow, and this road is being constructed to be permanent at a cost of about \$5,000 per mile. Better roads mean that fruit growers' products will be delivered to the consumer in better condition, which will command better prices, and better prices mean the upbuilding of the fruit growing districts. The more money and better profit the fruit grower makes the more money he has to spend on improving conditions. This means better schools, and better schools mean a better community and better class of citizens. In fact good roads in a community leads to better development of the community and the general business of the community in every way.

"The experiment stations of the several states are doing better work each succeeding year, the scientists are maturing and the people are appreciating." Perhaps no truer statement was ever made by our honorable Secretary of Agriculture. From personal knowledge of the work being done in horticultural experiment stations throughout the Northwest we realize all of this to be true.

The above lesson in agriculture is the best teacher. We had sixty thousand of them last year. Only people intimate with the farmer and fruit grower realize the importance and necessity of taking information to them. In the past he has been an individual who did not seek information as he should, and inasmuch as farming had been carried on in the same way for many years he did not realize the improvements that could be made that would

A Money Making Apple and Cherry Orchard Bargain in the Famous Pajaro Valley

65¼ acres, located 7 miles from Watsonville, California, in Corralitos district. Soil: Pajaro sandy loam. About 40 acres in bottom, balance hill and rolling. Richest and most productive soil on both bottom and hill. Small mountain stream, running water year round through center of ranch.

Large, well built, 2-story, 11-room house; large barns and outbuildings. Residence surrounded with beautiful garden. Lemons, figs, oranges, walnuts, peaches, etc., in family orchard. Full fruit farm equipment, including 4 horses, 2 fruit wagons, truck, modern spray outfit, plows, cultivators, etc. 20 stands bees.

This ideal cherry farm has 926 trees:

641 Royal Ann	15 to 20 years old
30 Burr Seedlings	18 to 20 " "
115 Rock Port	18 to 20 " "
80 Black Tartarian	5 to 20 " "

Average annual yield 60 to 80 tons. This fruit brings highest market price. Climatic conditions here make crop failure unknown. Several of the oldest cherry trees have averaged a yield of 1,000 pounds each for past 5 years.

Price \$35,000.00

For list of fifty Pajaro Valley orchard bargains, write

FARM & FOREST REALTY CO., Watsonville, California

The apple orchard, about 30 acres, contains 1,780 trees. Varieties as follows:
602 Newtowns 10 to 20 years old
546 Bellflowers 10 to 20 " "
95 Langford Seedling... 15 " "
113 Gravensteins 5 to 20 " "
60 White Pearmaines... 25 " "
364 Miscellaneous: Ben Davis, Black Twig, Hoover and other varieties.

The Tate apple orchard is noted for its superior fruit, fine flavor, uniform size and absence of defects. Always brings highest market price. Average crop yield for past years, 15,000 boxes annually.

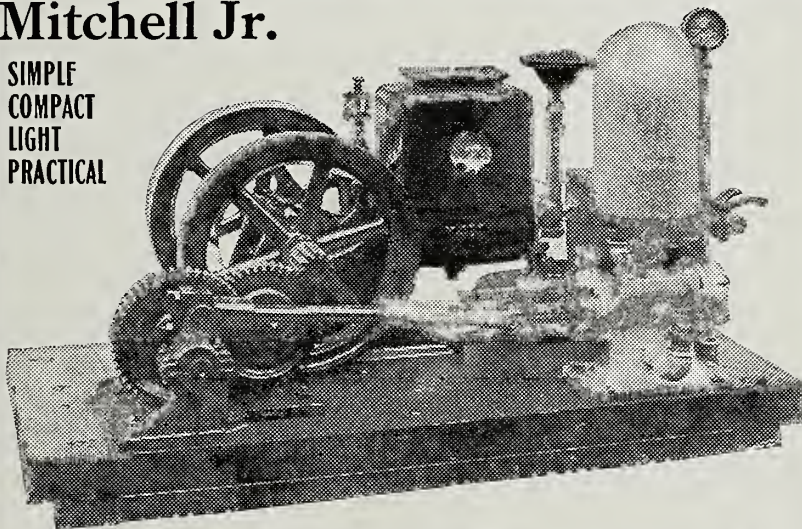
Here you have the ideal fruit soil, best of climatic conditions, abundance of water for all purposes; a proposition that, if conducted on modern business methods, will bring in a net annual income of from \$10,000 to \$15,000.

The Power Sprayer for Every Grower

Maintains 2 Nozzles Under 200 Pounds Continuous Pressure

Mitchell Jr.

SIMPLE
COMPACT
LIGHT
PRACTICAL



The Pump — The Engine — Base & Jack

A Myers High Pressure Pitman Power Spray Pump with double acting 5 inch stroke. There is nothing better.

A simple one horse Hopper Cooled Stover. Dependable and easy to operate a positive guarantee of ample power

Base is heavy and reinforced with steel girders. Jack is center drive double back geared with machine cut gears.

The low price of the outfit will be quoted upon application.

Ask For
Our 1912
Spray Catalogue. It's
Free

Mitchell
LEWIS & STEVER CO.

**Implements
Vehicles**

PORTLAND, ORE.
SPOKANE, WASH.
SEATTLE, WASH.
BOISE, IDAHO

If your requirements are for a larger outfit than the above we have just what you are looking for in our Mitchell Power Machines. Let us show you.

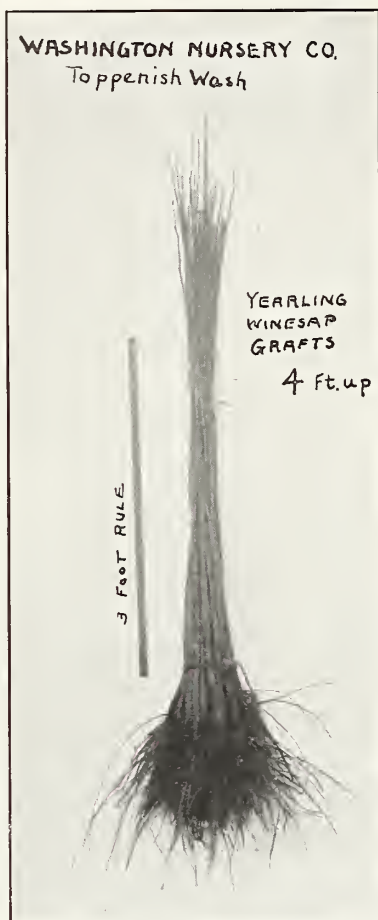
Another car of Myers Spray Pumps just in.
Now is the time to buy.

raise the quality of the crop and increase its size. He did not realize that orchard products could be put up in better packages with better grading and packing that would command higher prices, but the experiment stations, men connected with co-operative societies and railroads realized that this condition existed, and they have gone after it in a very effective way. Instead of holding meetings at some experiment station or railroad center they have held farmers' institutes throughout the country, and farmers' trains, labeled "Better Farming," carrying cars especially equipped to show improved methods of fruit culture, have been run by many railroads in connection with experiment stations to teach and show how conditions could be bettered. The amount of good accomplished by them is inestimable. Where large companies like railroads run demonstration trains it must be conceded that they realize the importance of the work, and while it is admitted that it is done to increase the volume of business along their own lines nevertheless the farmer and fruit grower get the business just the same.

"When a foreign insect invades our scientists seek its enemy where it came from. The natural enemy of the boll weevil was an ant that could not endure our winters, but the native ant is getting busy." This is certainly a step in the right direction. The countries from which these diseases were imported had the natural parasite to control them, so that the pest did not do the damage that it did in this country, where the natural parasite was lacking, and it seems to us that this is certainly a great work for the government to undertake—what no farmer or community could do—to discover and import the natural parasite, and thus control or eradicate these pests in our country.


WANTED

Expert cherry budder, immediately. Must be thoroughly competent. Address Bitter Root Valley Irrigation Company, Hamilton, Montana.



A LESSON IN HORTICULTURE

 **25** of our yearling Winesap grafts as they were at planting time, April 15, 1911. **NOTE THE ROOTS**

Same trees as dug  on November 17, 1911, with 7 months' growth on root and top. **NOTE THE ROOTS**



These twenty-five yearling piece root grafts were dug November, 1910, shipped to the National Apple Show at Spokane, and among other trees kept on display all week, returned to Toppenish, kept in our storehouse all winter (not heeled in the ground), and on April 15, 1911, cut back to 30 inches, the roots freshly trimmed and all planted in a row in our nursery. All the trees grew and thrived. The photo in November "Better Fruit" showed them standing in the field October 20, 1911. They were all dug on November 17, seven months after planting. The photo on the right shows the splendid growth of root and top and illustrates more clearly than words can describe that practically all the new root growth is from the freshly cut terminals.

"IT'S THE ROOT"

You can't build trees rapidly on a poor root system. A good top growth is not possible until the roots are there to support it. They won't be there if the nursery tree hasn't a good root system when transplanted in your orchard.

A glance at the mass of roots on the grafts above shows the large number which each tree must possess, and a careful look at the larger tree will indicate about twelve old roots, from the end of each of which there started from three to six new roots, leading off into the surrounding soil in search of nourishment for the rapidly growing top.

It is self-evident that the number of new roots is directly in proportion to the number of older roots, since the growth is all from the terminals and not from the sides, as many might suppose.

Our trees grow and thrive in suitable soil in any climate or at any elevation where trees should be planted. If it's an arid belt it's self-evident the young tree needs plenty of roots, and there's where our trees have the advantage. If it's a rainy belt nature takes care of the matter by regulating the new growth, but if there's no foundation to start with there'll be a slow development of the tree and a loss in time to the planter.

OUR FINE SOIL, LONG SUMMERS, STEADY CULTIVATION, MOISTURE UNDER CONTROL, SPLENDID FALL RIPENING WEATHER, all combine to develop a well rooted, fully matured, clean, hardy tree. The proof is found in orchards supplied by our trees, from British Columbia to Southern California, and east to Michigan and Indiana.

WASHINGTON NURSERY CO.

TOPPENISH, WASHINGTON

IF OUR SALESMAN FAILS TO SEE YOU, WRITE US
MORE SALESMEN WANTED FOR SOME GOOD UNOCCUPIED FIELDS

NON-IRRIGATED ORCHARD

White Salmon District—Opposite Hood River

Twenty-Eight Acres Bearing, Spitzenbergs and Newtowns

See My Ad, page 75, December "Better Fruit"

Thousands of you Fathers are troubled to know what to do with that College Boy!

Buy this orchard and make an orchardist of him, same as I did with my boy, whose orchard is half a mile away. The care and training of trees becomes an ennobling, engrossing, scientific fad; the cultivation and harvesting a light, profitable and genteel outdoor avocation; the whole utilizing his learning, developing his business qualities and imparting mental, moral and physical poise—manhood!

References { 1st National Bank, White Salmon, Washington
Butler Banking Company, Hood River, Oregon
"Better Fruit," Hood River, Oregon

F. McKERCHER, Owner
240 Stark Street, PORTLAND, OREGON

Orchard Thoughts

By W. S. Thornber, Horticulturist, Washington State College, Pullman

You can keep up the soil fertility and consequently the general activity of the orchard by the regular use of cover crops, but where an orchard has been permitted to run down and has not received proper cultivation for a period of ten or twelve years, we would give it a rather medium application of potash during the month of March, and a small application of lime almost at the same time; then, early in the spring, a light application of nitrate of soda. Would use from 300 to 400 pounds of lime per acre, 100 to 200 pounds of muriate of potash, and from 75 to 100 pounds of nitrate of soda. The trees need potash at once, the lime is to make other plant food available, and the nitrogen to produce growth. You can get dried blood or bone meal in place of nitrate of soda, and in the case of dried blood we would increase the application a little. We are of the opinion that it would pay to do this if the trees have been in a rather dormant and poor condition. In connection with the same work, prune heavily in order to get plenty of wood growth.

* * *

While we have never conducted any definite experiments at an altitude of 3,600 to 4,000 feet, I am satisfied from what I know of certain varieties of apples that we can make recommendations that will be practically safe for this work. Of course you will have to insure immunity from late spring frosts and summer freezes. We would recommend Rome Beauty, Wagener and York Imperial, in the order of their importance, for a section of this kind. We are of the opinion that others would grow there, but the ones mentioned are the most practical for that type.

* * *

If you are expecting to sow asparagus seed on light, sandy soil, it would be well to apply well rotted manure first and work it into the soil. This will give you the best form of fertilizer you can possibly use. I would not soak the seed in a liquid manure at all; there is too much danger. If you soak it at all soak it in clean water, changing every six to twelve hours for a period of

twenty-four hours. If you expect to leave the plants permanently in the rows we would advise you not to do this, but sow the seed thickly about one inch apart in rows, and the rows eighteen inches to two feet apart, and grow as a sort of seed bed; then transplant to a permanent plantation later. I believe the palmetto variety is as good a one as you can get for localities similar to Kennewick, Washington. It is rather difficult to approximate even an average growth for asparagus, much depending on the soil and location. In the Walla Walla country we know of returns having been received ranging from \$150 to \$1,000 per acre.

* * *

We have been asked if the soil in the region of Wapato, Washington, is all right for growing cantaloupes. We believe that if the soil is thoroughly subdued, cantaloupes can be produced on it. We find some difficulty in getting a stand the first year or two on raw sagebrush land, and it may be well to work in a little well rotted manure near the hills of these plants in order to get them started as they should be. We have had some difficulty with cantaloupe blight in the valley, but that can be remedied to some extent by spraying the plants with bordeaux mixture soon after they come up. I would not plant the vines closer than five feet, and in this way give them plenty of room between the hills, and probably six to eight feet between the rows.

* * *

On a number of occasions I have been asked, "What would be best to plant with the Winesap?" The Wagener is a good one to plant with the Winesap. We would also like the Ortley and Winter Bellflower. The Rome Beauty is not quite so good, though if you have Rome Beauties planted already, we would not advise you to change them. The great difficulty with the Rome

Beauty is that it blossoms late. If I were in Western Washington, in general, I would seek something that would do well there—the Ortley, or the Glowing Coal, for instance. These will make good combinations.

* * *

In transplanting evergreens in a cemetery we would transplant them just as the buds begin to burst in the spring. Usually this is from the 15th to the 20th of April. In transplanting never permit the roots to become dried. Tamp the soil very firmly around the roots. I am very partial to the Colorado blue spruce, and if you want a green type that is very pretty, or a silvery type, mountain ash can be transplanted as soon as the weather permits in the spring—the earlier the better.

The Reiersen Machinery Company, of Portland, Oregon, are manufacturing the highest grade of power spraying machinery, and are selling them direct to the fruit grower, thereby saving the fruit grower the middleman's profit.*

Fruit Growing and Bee Keeping

Learn what an ideal combination it makes. "Gleanings in Bee Culture" tells all about it. Six months' trial subscription 25c. 64-page book on Bees and supply catalog free.

THE A. I. ROOT CO., Box 258, Medina, Ohio

\$1.50—Each—\$1.50

The Kansas Pruning Knife

MADE BY
INTERNATIONAL TOOL CO.
of Detroit, Michigan

R. R. 1, Box 53, Montrose, Colorado

Wanted! Practical Nursery Man

To take charge of nursery. A splendid opportunity for a man that will invest a small amount of money. Wild Rose Nursery Co., Spokane, Washington.



RHUBARB FOR PROFIT

\$1,000 profit per acre. NOW IS THE TIME TO PLANT BOTH THE BERRY AND RHUBARB. BERRY PLANTS OF ALL SORTS. WRITE FOR FREE BOOK TODAY. J. B. Wagner, Pasadena, California, "Rhubarb and Berry Specialist."

A Free Book on Rhubarb Culture



Continued from page 49

the arrangement of varieties. Shall all Jonathans be planted in a solid block or shall they be intermixed with other varieties? Owing to the fact that the flowers of some varieties are self-sterile it is generally considered better to intermix them than to plant single varieties in solid blocks. Though many varieties are able to fertilize themselves, frequently the size of the fruit is much increased if pollen from other varieties serves this mission. For these reasons it is advisable to plant only a few rows of a single variety together, followed by a few rows of another variety. Arrangement of rows in pairs facilitates labor in harvesting season besides affording the best opportunity for cross-pollination. That is, with an orchard of Jonathan, Grimes, Rome Beauty and Winesap, two rows of each variety could be planted in their respective order.

How to secure the best nursery stock for planting is often a very perplexing question. There are several possible avenues of procedure, and it is well that each of these be considered in order to determine which has the greatest number of merits for any particular case. The propagation of fruit trees is a business of itself, yet prospective orchardists often reason that they are justified in venturing into this business for the sake of providing themselves with trees true to name. This condition arises from the fact that countless numbers of orchardists have been swindled by tree agents, and a few have been exceedingly disappointed by careless or dishonest nurserymen. Many men have nursed and cared for trees from infancy to bearing age, and the greatest fruit that they received for their labors was disappointment. This experience has been so prevalent that many have been led to believe that it is impossible to get varieties true to name from nurserymen. Without question the prospective planter should be certain that he is going to get trees true to name even at an increased cost of propagation. There are enough honest nurserymen in the country to satisfy this requirement, and these same nurserymen are able to grow the trees cheaper than an inexperienced person could possibly do. Then, from the standpoint of economy, with the sole purpose of getting trees true to name it would seem best that the fruit grower let the nurseryman grow the trees. The selection of the nurseryman is a vital consideration.

During recent years the subject of "pedigree nursery stock" (young nursery trees whose parentage is known) has come to occupy an important place in the minds of the older fruit growers of our country. The method by which such trees are secured is by propagating them from the buds taken from mature trees of known vigor and productiveness—trees that have records of merit behind them. Acquaintance with apple trees and the fruit they produce has demon-

strated that, taking the Jonathan variety for example, there are certain individual trees that produce apples of superior size, finer flavor, richer color, better quality and in larger quantities than other trees of the same variety in the same locality. It is known that certain trees are habitually inclined to bear full crops annually, and that they are resistant to certain insect and fungous pests. Since buds taken from these trees and used in propagating other trees will produce individuals of equal merit, it seems logical to conclude that such a method should be used in order to secure the best nursery stock. Nurserymen generally have not accepted this idea of "pedigree trees," but still hold to the practice of using buds from young nursery trees which have never borne an apple or that have never shown any individual merit except that of growing thriftily. While it is true that several generations may intervene between the original bearing parent without seriously interfering with the fruit bearing habit of the trees propagated, yet the pedigree method is always preferable. Some nurserymen who claim to have pedigree stock really have nothing more than ordinary stock, and this has brought the method into disfavor even with the best nurserymen. Most of these men have not had ample proof that propagating directly from bearing trees produces trees of superior merit when compared with those which are propagated from the nursery trees. However, painstaking planters, especially those of experience, are going to demand trees of selected stock and are willing to undergo considerable expense to get them. Since most nurserymen at present do not have this "pedigree stock" for sale the question naturally arises as to methods of securing such trees. Of course, the prospective planter may propagate his own trees, selecting stock of merit and caring for it as the nurseryman would. This is a very costly undertaking for unskilled hands, so it is well to devise some means whereby the efforts of orchardists and the skill of nurserymen may be combined. Where there are local nurserymen planters may select buds or scions from trees possessing desirable characters, take them to the nurserymen and have trees propagated. The danger of honest nurserymen getting labels confused is little more than if orchardists did the work themselves; besides, the trees have the benefit of being under the management of skilled hands. Trees of this sort will cost a trifle more, but fruit growers can find no better investment. By this method a fruit grower may insure the permanent success of his business.

While emphasis has been laid upon the selection of the bud or scion from which the bearing surface of the tree is to be grown, due attention should also be directed to securing the best kind of a seedling on which to grow the top. The root, or stock, upon

CALIFORNIA APPLES

FAMOUS WATSONVILLE ORCHARDS

We are headquarters for the famous Watsonville, California, apple orchards, in a section which has proved its worth by annual shipment to points all over the world of over 4,000 carloads of the finest apples grown. Buy now, and take advantage of present low prices, and live in an ideal climate where frost, ice and snow are never known. Send for our list of over 100 bearing apple orchards, netting from 15 to 30 per cent, at prices ranging from \$300 to \$1,000 per acre, with all improvements. Don't buy until you have seen this famous apple district.

CALIFORNIA APPLE LAND COMPANY
74 Bacon Building, Oakland, California

The Best Part of Michigan

is Oceana, the most western county in state. More rural schools, churches and telephones than any other county in United States. One hundred miles macadamized roads. Fruit is bringing up to \$1,000 per acre; wheat 40 bushels; potatoes 300 bushels; alfalfa and dairy coming fast. Write for list of farms.

HANSON & SON, Hart, Michigan

GRAPE CUTTINGS

Campbell's Early
Concord and Worden

Write for Prices

W. B. CUSHNEY, Sunnyside, Washington



Millions of Dollars Are Lost Annually by
Fruit Growers, Because They Do Not Spray
Persistently With Properly Made Sprays

BLANCHARD'S

LION BRAND

INSECTICIDES & FUNGICIDES
Are the Standard of the World
Strongest—Purest—Most Effective—Safest to Use
Destroys Every Known Insect Pest and Fungous
Disease of Fruit Trees; Save the Trees and
Insure Larger Crops of First Quality Fruit

"LION BRAND" LIME-SULPHUR SOLUTION
For San Jose Scale particularly, and the only Spray
that destroys Scale and does not injure Trees. Ready
for use, and more economical than home-made.

"LION BRAND" BORDEAUX MIXTURE
prevents Blight, Mildew, Rot, etc., from destroying
Potatoes, Beans, Peas and Melons; keeps spots and
specks off Apples, Peaches and other fruit, and makes
crops surer and far larger. One gallon to 49 of Water.

"LION BRAND" PURE PARIS GREEN
contains absolutely not a particle of filler or adulterant
of any sort. Accepted the world over as the
standard.

"LION BRAND" ARSENATE OF LEAD
The stickiest arsenate made. Preferable for Codling
Moth, Curculio, Elm Leaf Beetle and Chewing Insects
of all sorts, on trees, shrubs, vines, bushes and vegetables,
where it is desirable that the poison remain longer on the foliage than it is possible with other
insecticides. Does not burn the most delicate foliage.

We Also Make Many Other Specialties
Something to destroy every injurious insect, and protect
trees and plants from all fungous diseases.

We are the largest and oldest manufacturers of Insecticides
and Fungicides in the World—in this
business exclusively 23 years. We publish a

FREE SPRAYING BOOKLET
a copy of which we shall be glad to send you.
Write For It To Nearest Office.

Blanchard's Products are sold by dealers and agents
everywhere, or direct if your dealer cannot supply you.

THE JAMES A. BLANCHARD CO.
590 Hudson Terminal 591 Broad Street
NEW YORK ST. JOSEPH, MICHIGAN

Factories—New York and St. Joseph

PORTLAND SEED CO., SELLING AGENTS
PORTLAND, OREGON

CREATION



HE who is blessed with the power to create is blessed with God's greatest gift to man, and if he uses that power to increase the happiness of his fellow men he becomes a benefactor to the human race.

The world owes homage to the men who have devoted their burning energies to the consummation of one purpose, to the final and most perfect development of an ideal.

THE STEINWAY PIANO

Is an example of the grand result of years of persistent, purposeful striving after the very highest musical ideal. Sons have taken up the task where fathers left off, so that alternate generations of genius, working through the finest piano factory in the world, have evolved the Steinway—a piano that has long since been acknowledge the musical masterpiece of the ages.

Priced at \$575, \$625, \$775 and up to \$1,600. Of course you can buy a piano cheaper, but it will be a cheaper piano.

Why not get the best?

The tone is the Jewel.
The case is the Setting.
The combination is the
Steinway—the Perfect
Piano.

VICTOR TALKING
MACHINES and
SHEET MUSIC

Sherman Clay & Co.

SIXTH AND MORRISON
PORTLAND, OREGON
Exclusive Steinway Representatives

We Develop Orchards in Hood River Valley

BONEBORO ORCHARD CO.

HOOD RIVER, OREGON

which a tree is grown has a marked influence upon the growth and character of the resulting tree. This condition results because there is a definite balance between the roots and the top of the tree. Dwarf trees are secured by grafting upon slow growing roots; on the other hand, vigorous trees are secured by using strong, vigorous growing roots. Seeds from the Northern Spy, Ben Davis, Yellow Transparent and Red Astrachan produce hardy, thrifty and vigorous seedlings. Such seedlings used as stocks make a strong union between stock and scion, give vigor and possibly influence the character of the fruit. Besides these attributes, seedlings of the Northern Spy make especially desirable stocks because of their resistance to the

attacks of the woolly aphis. This is a species of plant louse that infests the roots, trunks and tops of many varieties of the apple. On the roots of nursery stock it is especially disastrous and frequently extends its damaging influence far into the life of the tree before it can be subdued or before the tree is finally killed. This louse is one of the most difficult insects to control in the orchard, consequently it is important that the orchardist should avoid future trouble by selecting stocks grown from Northern Spy seeds. It is thought that seedlings of the Red Astrachan or Yellow Transparent, when used as stocks, produce fruit of earlier maturity than late stocks, which is a distinct advantage with late sorts grown in short season sections.

The culture of dwarf trees commercially has not been undertaken to any large extent in the United States. However, people who have desired a few very choice apples of high quality from small city or suburban lots have grown them for many years with very satisfactory results. Unless there is a good local market for fruit dwarfs should not be planted for commercial purposes, but for the man with the small lot they have many advantages over standard or ordinary kinds. The novelty of having something different from the ordinary appeals to many, and this particular dwarfs are very resourceful. It is claimed that they can be sprayed with greater care and thoroughness, and that pruning and harvesting may be more economically done. They have a distinct advantage for raising home market apples which require picking several times, over the standards. Owing to their small stature they lend themselves admirably to protection from late frosts. There are two types of dwarf apple trees—those grown on Paradise stock and those grown on Doucin. The former type is strictly a dwarf, as it only attains a height of eight or nine feet owing to its small root system. It is well suited to small gardens and to places where there is a limited area. In our climate they will bear a scattering number of apples one year after planting, and in two years should produce a goodly number of apples. The type of dwarf grown upon the Doucin stock is in reality only a half dwarf, as it attains a height of sixteen or eighteen feet. This tree may be valuable for commercial purposes, for it has sufficient capacity to produce a liberal quantity of fruit. At the present time the Idaho Experiment Station is testing these two types of dwarfs with a view of ascertaining more clearly their adaptability to Idaho conditions. Those desiring detailed information regarding the culture of dwarf trees are referred to Waugh's "Dwarf Fruit Trees," published by the Orange Judd Co., Chicago, Illinois.

The average planter is apt to be at a loss to know whether he is to plant trees grafted on whole roots or on piece roots. Certain nurserymen argue in favor of one process while an equal number favor the other method. Inasmuch as both methods are championed it would seem to indicate that under proper conditions each is good. In fact unprejudiced experimenters have come to the conclusion that grafts made on whole roots are of no greater value to the planter than grafts made on pieces of roots which are above two and one-half inches in length. Within recent years budded trees are coming more into favor both with nurserymen and with orchardists. By this method of propagating the roots of the seedling are not disturbed and no portion is lost by digging, as in the case with roots used for grafting. As a result of this more extensive and stronger root system budded trees usually make a stronger growth than

WOULDN'T YOU

Like to move to a new country if it was not for the PIONEERING?

OPPORTUNITY

Is a new fruit district (under irrigation five years) but three miles from the city of Spokane in the famous Spokane valley. All our tracts have electric lights, domestic water, telephones, in fact every modern convenience. Large profits and an ideal home.

Get particulars from **OPPORTUNITY-VERA LAND CO.**
403 Sprague Avenue, Spokane, Washington

NURSERY STOCK OF ABSOLUTE RELIABILITY

That's the only kind to buy. Good trees bring success and poor trees failure. Fruit growers know this. They do not experiment. They buy non-irrigated, whole root, budded trees, and we number scores of them on our list of well pleased customers. We have prepared this season for an immense business. That means trees, trees, trees without limit as to variety and quantity. We also have an immense stock of small fruits and ornamentals. We solicit your confidence, and will take care of the rest. Catalogue on application.

Salem Nursery Company, Salem, Oregon

Reliable and live salesmen wanted

the grafted trees during the first year while the trees remain in the nursery. Where yearling trees are wanted by planters, nurserymen usually find that budded trees furnish more satisfactory stock because of their stronger growth and finer appearance. It is a question, however, whether or not this advantage continues after the trees pass from the nursery to the orchard. In the process of digging nursery stock much of the root system is cut away, and this may result in the grafted trees coming to the orchardist with as extensive roots as those found on the budded stock.

Without a doubt yearling trees furnish the most desirable stock for Idaho orchards. This is due not to the claim that is very often made for them of being able to catch and even overreach the growth of older stock, but to the fact that a yearling tree has all the buds intact and permits the orchardist starting the head or scaffold limbs near the ground. Trees that are allowed to remain in the nursery rows until two years old or older are usually headed much higher by nurserymen than experience has demonstrated to be desirable. While long trunked trees may do well in the Eastern United States they are almost sure to succumb to the devastating influence of sunscald in the West. This trouble is due to exposure of the unprotected trunk to the hot rays of the afternoon sun. Where the limbs start near the ground the trunk will be shaded and the difficulty obviated. Low headed trees have other special advantages over high headed trees, chief among which may be mentioned the ease of spraying and pruning, the economy of harvesting, the decreased danger from strong winds and the almost unbelievable point of greater facility in cultivating. In order to get trees of this type it is imperative that yearling trees be selected.

Whatever the method of securing nursery trees used, it is always better to deal with the nearest reliable nurseryman. Stock from nearby nurseries is generally regarded as better adapted to local conditions than trees from a distance, though the importance of this point is often overestimated. There are orchards in Idaho that are

remarkably productive and vigorous, the nursery stock for which has been brought hundreds of miles. It will be found that trees grown under similar conditions of soil and climate will give satisfactory results. When trees cannot be secured from nurserymen having similar conditions of soil and climate it is decidedly better to go north than to go south in procuring them. Northern grown stock is usually hardier, and consequently adapts itself to new environment better than southern grown trees. Freight is saved and the roots of the trees are not out of the ground so long, therefore less likely to dry out, when the planter patronizes nearby nurseries. The prospective orchardist has a chance of

inspecting and selecting his own trees without the risk of getting undesirable service from a distance, and local nurserymen are more desirous of pleasing their home trade because upon this point their future success depends.

The best trees are none too good, and it is decidedly poor reasoning that leads one to put second or third class trees in the orchard. A few cents extra in the initial cost of good trees is a meaningless trifle compared with the cost of caring for them until bearing age is reached. One should never try to practice economy by buying cheap trees. A first class tree should be a well grown medium sized specimen possessing the characteristic hab-

FREE EXPERT ADVICE

By Professor A. Van Holderbeke, five years Washington State Horticulturist,

TO FRUIT GROWERS

Purchasing high grade nursery stock, guaranteed true to name, from the

Van Holderbeke Nursery Company

Main Offices:
Columbia Building
Spokane, Washington

RELIABLE
AGENTS
WANTED

Nurseries:
Spokane Valley and
Kennewick, Washington

A P P L E S

R. H. PENNINGTON & CO. Incorporated

Main Office, EVANSVILLE, INDIANA

Branches—St. Louis, Missouri; Owensboro, Kentucky;
Vincennes, Indiana; Paducah, Kentucky

A P P L E S

Gold Dollars for 75 Cents

This is what we are giving our many customers when we sell our fancy trees at the price we are now delivering at. You need our dollar's worth of trees, we need your 75 cents. Write to us about the exchange.

See page 54 December issue for this illustration.

Cut was returned to the nursery company for use elsewhere, and because of the disorganized condition of mails on account of the prevailing weather conditions, has not reached us at time of going to press.

This is a cut of the Goodell Strawberry Plant, which won the Gold Medal at the Seattle Exposition. Wonderful for yield, size, color and flavor of wild berry. Write for description.

APPLES

1,800 Arkansas Black
25,000 Delicious
23,000 Grimes Golden
5,000 Gravenstein
120,000 Jonathan
50,000 McIntosh
100,000 Newtown
116,000 Rome Beauty
32,000 Spitzenberg
15,000 Stayman Winesap
60,000 Wagener
3,000 Wealthy
100,000 Winesap
50,000 in varieties
200,000 Peach—All varieties
20,000 Bartlett Pears
10,000 Moorpark Apricots

Write to us for Special Prices

**The Sunnyside Nursery
Company**
Sunnyside, Washington

its of growth of the variety, and should be healthy, including freedom from injurious diseases and insects. Overgrown trees are not as desirable as medium sized ones, although they are much preferable to under sized stock. Fall buying of nursery stock is the safer plan because of the assurance that the orchardist will get choice stock of the varieties desired. However, where fall buying is neglected, spring buying may prove satisfactory.

When delivered in the fall, trees may "heeled in" by the planter and carried through the winter in first class order. Care should be exercised to select a well drained and protected place on which they are to be "heeled in." It is best to secure this place near

The highest types of apple in the world today are the Hood River Spitzenberg and Yellow Newtown Pippin; the highest type today to Hood River's cosmopolitan people of a life insurance policy is a Policy of the National Life Insurance Company of the United States of America, of Chicago.

These Policies, which hundreds of your neighbors have, make superb Christmas presents, Happy New Year gifts, appropriate wedding presents, choice birthday reminders and unexcelled anniversary tokens.

Write for information to the Agent at Large, Dr. James H. Shults, Hood River, whom most of you know, quote "Better Fruit," and full and satisfactory information will be furnished and hurry orders will receive prompt attention by telegraph and special delivery letters.

the area to be planted so that the trees will be convenient at planting time. This practice of "heeling in" consists of plowing a deep furrow in which the roots are buried. Where the trees have an exceptional spread of roots it is necessary to increase the depth of the furrow by digging in order that all the roots may be placed below the level of the surface. The trees should be arranged singly, side by side, with the tops laid down almost horizontal and all tops laid in the same direction (preferably pointing to the north). After a single row of trees has been distributed along the furrow, loose moist soil must be thrown over the roots, so that every root is brought in close contact with the soil, excluding the free passage of the air. The topmost roots should be buried to a depth of four to six inches. Where large numbers of trees are needed rows are arranged so that the tops of each succeeding row overlap the "heeled in" roots of the preceding. Before trees are "heeled in" in the fall it is usually advisable to cut away all broken and bruised roots, and to thin out other roots that crowd and interlace. Trees treated in this manner will have callouses formed over all cut surfaces by spring and will be in excellent condition for planting. Where mice or other vermin are not present it is safer to mulch the tops of the trees during winter rather than leave them exposed. If the roots have become dry in transit they should be thoroughly soaked with

water before they are "heeled in." A tub of water may be used for this purpose, and while one bundle is being "heeled in" another is allowed to soak in the tub. Care should be exercised to remove all packing material from the roots, for such material permits too much air. Each variety should be placed by itself, properly labeled, and a record kept in a book of the position that each occupies. While this "heeling in" practice has been described as a method for keeping fall delivered stock it should be said that it applies with equal importance to spring deliveries. Where the ground is not in perfect readiness for the planting of the trees upon their arrival they should be unpacked at once and "heeled in." In fact the instances are rare in which "heeling in" should not be regarded as the only rule to follow. Whatever system of planting may be

LEFT THE EAST

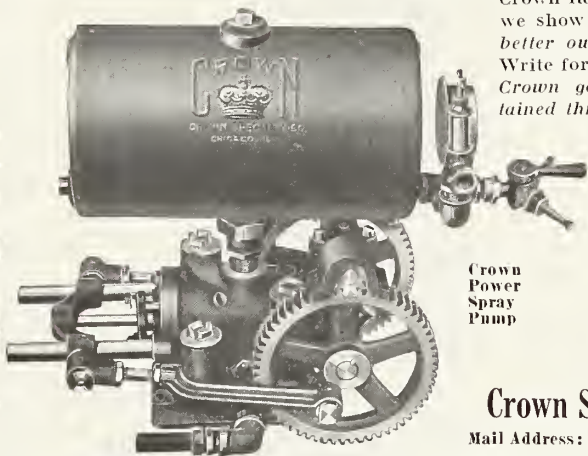
Two years ago to develop my fruit ranch five miles from Spokane. Like it fine. Climate suits. Best water; electric and steam roads. Am here to stay, but bought more than can handle to advantage alone. Will sell half to congenial Christian family. Could arrange care; or could give extra work, bringing income to purchaser. Small ranches numerous, community intellectual, large and growing. Splendid opening for professional; no resident physician, for instance. References given and required. Address "C," care "Better Fruit."

A Power Spray Pump for \$45.00

Just what you have been looking for but at least \$20.00 LOWER in price than you expected to pay

A high grade, large capacity pump, which will maintain a steady pressure all day long at any point up to 300 pounds. Can be run by any make of engine. Our special engine, gear connected to pump on cast-iron bed-plate, furnished when desired at correspondingly low price. With this complete outfit you can run four leads of hose at 300 pounds pressure continuously. The price of \$45 includes, with the pump, the accessories shown in cut below, namely, double hose-valve, pressure gauge, suction strainer and a

Crown Relief Valve (which we show in this ad). No better outfit at any price. Write for full information. Crown goods can be obtained through your dealer.



Crown Power Spray Pump

Eventually

you will come to use "Mass-O-Spray," the great universal nozzle. Why not now? Send a dollar for two postpaid. The big growers are already using them.

Crown Specialty Co.

Mail Address: Box 297, CHICAGO



CROWN RELIEF VALVE

The only perfect pressure regulator in the market.

It is a new invention on an entirely new principle.

It costs no more, but it will outlast 4 of the old type, and you have none of the usual troubles. At least write us a line and find out about this and other specialties.

adopted, the laying out or staking of the orchard involves considerable labor. It is well that the simpler and more satisfactory methods of practice be understood. In the beginning of this undertaking it should always be remembered that plenty of room should be left between the trees and the boundary fence so that work may be facilitated. Very often trees are crowded so near the fence that cultivation on all sides is impossible, and spraying has to be done under trying and unsatisfactory conditions. Because of these conditions no tree should be planted nearer than twenty-five feet of the boundary line of the orchard area. Where the ground is comparatively level and the area small, one of the simplest methods of laying out an orchard in squares is to set stakes along the boundary lines at opposite sides of the area to be planted and then use a marked wire for locating the position of each tree. Beginning on the side boundary of the tract, the first stake is set twenty-five feet from the end. Following this stake, other stakes are set successively at the distances the trees are to occupy, these stakes to be in line along the side boundary and extending the entire length of the field. The opposite side of the area is staked in like manner, beginning at the same end and staking in the same direction. After this a telephone wire which is long enough to reach across the field is secured. In one end of the wire a loop large enough to slip over the stakes is made. Twenty-five feet from this loop the wire is wrapped tightly with fine stove wire, over which a bit of bright red flannel is tied. Then, at distances the trees are to stand in the rows, other markings are likewise made along the telephone wire. By stretching the

wire between opposite pairs of stakes the spot where each tree is to stand may be located. Holes may be dug and trees set at once, or stakes may be driven at the various marks. Another system of marking off squares is to use a common turning plow. First of all stakes are placed around the field along the boundary lines similar to that described for the wire method, except that the ends of the field are staked as well as the sides. The first stake in each line, on its respective side, is placed twenty-five feet from the true corner of the field. Furrows are made lengthwise and crosswise in line with opposite stakes, the position of the tree being located at the intersection of these furrows. With a good, steady team and a firm hand to hold the reins, rows may be made comparatively straight. However, it is necessary to align the trees by sighting in order to get straight rows. The greatest indorsement that this method has is that it greatly facilitates the digging of holes. Still another method used is to locate stakes around the field as in the preceding case and then establish a row of stakes through the middle of the field each way in line with all side and end stakes, respectively, but in such a manner that none of these stakes come where trees are to be set. After this one man may stake out the orchard by himself, for he always has two pairs of stakes running at right angles with each other with which to align himself for each row of trees in the orchard. Places for digging the holes for the trees may be readily located, and the latter practice of using this system is very simple, as no small stakes for individual trees are needed. Since an orchard laid out in hexagons has all of its trees equidistant the first essential device for this work

is a triangle, the length of each side of which is the desired distance between two rows of trees. Usually this triangle is constructed by the use of three pieces of flexible wire joined together at the three corners by rings one and one-half or two inches in diameter. Measured from the middle of each ring, each side should correspond exactly with the distance between the trees. A triangle constructed in this manner works very well on comparatively level ground, but for sloping ground it is usually best to make the triangle of wood. Three well seasoned one-by-two-inch pine strips, each two inches shorter than the distance the trees are to be planted, are nailed firmly and braced together, forming an equilateral triangle. Care should be taken to have the sides of the face of this triangle on the same plane. At each corner of the triangle a pine board six by six inches is nailed, an inch hole is bored in each board in such a manner that, measured from the center of the holes, each side corresponds exactly with the distances the trees are to be planted. In using the triangle it is necessary to stake out one row by line at one side of the field, after which the triangle serves to locate all other stakes. Three men must carry the triangle, one at each ring. By placing two of the rings separately over two established stakes a third stake is established. This process is repeated until the entire field has been staked. Where it is desired to use hexagons on sloping or hilly ground a plumb line and carpenter's level must be used in connection with the wooden triangle. Each time that the triangle is moved it is leveled and the plumb line hung at the corner where the ground is lowest. By this method the third stake may be exactly located in reference to the other stakes.

Why Not Plant Trees That You Know Will Make Good

Instead of taking chances with the man who is growing a few trees simply as a side issue? It takes experience, skill, and proper equipment to turn out nursery stock of Real Quality, and the man who hasn't these three things is trying to sell you an inferior tree.

Our trees are guaranteed to be true to name, and free from pest or disease. They are hardy and vigorous. You can't afford to plant the other fellow's trees when you can get ours.

Ask for our catalog. It will be worth your while.

Toppenish Nursery Company

TOPPENISH, WASHINGTON

In the famous Yakima Valley

A few good, live salesmen wanted in good territory

Printing

for Nurserymen and Fruit Growers

BETTER FRUIT is acknowledged to be the leading magazine of the United States — if not of the world — devoted to horticulture. All of the mechanical end of the production of this magazine is carried through to completion in our establishment. We feel that the experience thus gained puts us in first place when it comes to producing printing particularly intended for use in the business of the nurseryman or the fruit grower. Any inquiries along this line will receive prompt and courteous attention. If the correspondence thus started leads to the placing of an order with us, we guarantee that results will be satisfactory — to both parties concerned.

F. W. Baltes and Company
Printers, Portland, Oregon

The quincunx system is only a modification of the square system. In placing the rows of stakes at the side of the field it is necessary to place an additional stake midway between each two stakes described in the preliminary staking for squares. The marked wire described for laying out the squares has an additional mark or loop placed upon it, which, measured from the loop previously described, is half the distance that exists between the permanent trees. In other words, if the permanent trees are forty feet apart then this additional mark or loop would be twenty feet from the end loop. When a "filler" row is to be staked this second loop is used, and stakes or trees are set by the marks

NEW TRAPPING LAWS

The wide variation in trapping laws in various states makes it quite necessary for the trapper and farmer to be in close touch with game legislation at all times. The old saying that "ignorance of the law excuses no man" has caused regret in the heart of many only when it has been too late.

As a rule, the professional trapper makes it his business to become acquainted with all new laws regarding hunting and trapping, but there are many farmers and amateur trappers who are not as familiar with game laws as they should be.

These people will be glad to learn of a book which is now being distributed free by F. C. Taylor & Co. of St. Louis, Missouri, the world's greatest fur house. This book gives game laws of every state in the Union and Canada. It also tells how and when to trap, what baits to use for various animals, and reveals some trapping secrets which have always been carefully guarded by trappers in the past. We suggest that those of our readers who are interested in hunting or trapping send for a copy of the book.*

on the wire, except that the first one is skipped. In order to lay out an orchard on sloping land according to contour system it is well to employ a surveyor; especially is this necessary where irrigation is practiced. In this manner each tree may be located according to a definite grade and the future management of the orchard greatly facilitated.

After an orchard has been staked it is important that some device be used that will serve to locate the trunk of the tree in the same place occupied by the stake. For this purpose one of two devices is used by orchard planters. The first and most common consists of a board one inch thick, six inches wide and six feet long. An inch hole is bored in the center of the board and one at each end at equal distances from the center. To complete the construction it is only necessary to mark out a strip an inch wide on one side of the board that will include the hole in the middle and then saw out this piece. Stakes twelve to fourteen inches long are provided, which will easily slip through the end holes. In using this device the groove in the center of the board is placed tightly against the stake standing where the tree is to go, a stake is pushed into the ground through each of the holes at the end, then the bar is removed. After the hole has been dug it is only necessary to replace the board over the end stakes and bring the trunk of the tree to occupy the same position as that

occupied by the stake. After the hole is practically filled the bar is again brought into service and the tree placed in its exact position. The second common device employed for locating trees is a triangle made by nailing firmly together three strips each one-half inch thick, two inches wide and six feet long, allowing a projection of three inches of the strips at the corners of the triangle thus formed. In use, one projecting corner of the triangle is placed firmly against the stake standing where the tree is to go and a stake driven in each of the other two corners, the triangle is removed, the hole dug and the tree brought into exact position similarly to that given for the bar. Where large areas are to be planted it is often wise to have two or four of these tree locating devices all constructed according to

"Better Fruit's" Special Clubbing Offers

(SEE PAGE 65)

WILL INTEREST YOU

Combinations are offered to interest every class of readers

Hood River Nurseries

Have for the coming season a very complete line of

Nursery Stock

Newtown and Spitzenberg propagated from selected bearing trees. Make no mistake, but start your orchard right. Plant generation trees. Hood River (Clark Seedling) strawberry plants in quantities to suit

SEND FOR PRICES

RAWSON & STANTON, Hood River, Oregon

WANTED

First-class agents to sell orchard tracts, already planted, on the installment plan. A fine proposition for live wires. Communicate with us immediately. Nothing better anywhere in orchards. Just outside incorporation of Nampa, on car line.

Eagle Heights Orchards Co.
Nampa, Idaho

Stranahan & Clark

DEALERS IN

Commercial Fertilizers
Land Plaster
Lime
Plaster Paris
Cement
Building Plasters

HOOD RIVER, OREGON

"Northwest"
trees
are best

"Northwest"
trees
are best

We have for the coming season a
complete line of

NURSERY STOCK

Including everything handled in the
nursery line

Write for our new prices and catalog

NORTHWEST NURSERY CO.

North Yakima, Washington

AGENTS WANTED

A Reputation to Sustain

Vineland Nurseries Company

Clarkston, Washington

PROPAGATORS OF

Reliable Nursery Stock

All stock budded from bearing trees,
fruit and ornamental

Rogue River Fruit and Produce Association

Packers and Shippers of
Rogue River Fruit

Finest flavored—Longest keepers

PEARS

APPLES

Bartlett

Newtown

Howell

"Autocrat of the
Breakfast Table"

Bosc

Spitzenberg

Anjou

Jonathan

Comice

Ben Davis

Winter Nelis

TWELVE SHIPPING STATIONS

Modern Economy Code

K. S. MILLER, Manager

the same specifications. Two men proceed to locate the temporary stakes and to dig the holes while two others follow, with the same kind of locating device, setting the trees. Aside from the fact that the tree locators are serviceable in putting the trees in their exact positions, they also give the planter a good idea of the depth at which the trees are being set. Without their use trees may easily be placed in the holes and the earth filled in about them before it is discovered that the planting has been too shallow.

Much difference of opinion exists between the best authorities as to the season for planting apple trees. Late fall planting is advocated by some, while others are equally certain that early spring planting is better. The chief reasons advanced by the former are that roots of trees set in the fall become thoroughly established in the soil and that all cut surfaces on the roots become calloused during the winter, which results in new roots pushing out early in the spring. On the other hand, dry falls and dry winters will prove fatal to many fall set trees, and the stand will therefore be imperfect. Since Idaho very often experiences these latter conditions, early spring planting may be regarded as the safer rule. If trees are "heeled in" in the fall roots will be thoroughly calloused by early spring, thus affording such trees one of the main benefits derived from fall planting. Undoubtedly spring planting should be the rule for Idaho orchardists. The treatment of apple trees at planting time has a very great influence upon their future welfare. Many orchard planters set trees in their permanent position without applying the least amount of rational treatment to them. For example, trees are planted in the orchard in the same condition as they are received from the nursery. At the close of the first season the owner is much troubled to learn the reason for the poor growth, and in many instances the utter failure of his trees.

The amount of root surface that trees have when they leave the nursery row is usually about half as great as they possessed normally. Further than this, it is always advisable to thin out all crowding and interlacing roots, and to cut away all broken ends of those remaining. In the South a very severe system of root pruning is practiced, known as the Stringfellow system, but this system is not practicable in the North. Nevertheless apple trees require a certain amount of root pruning before they are planted in order to get the best results. The opportune time to do this pruning is in the fall, but where the trees do not arrive until spring root pruning should be administered before the trees are planted. Since the tops and roots of trees are mutually dependent there is a nice balance between these parts as they exist normally, consequently it appears reasonable to believe that where a portion of the roots has been removed a similar amount of the top should also

PLANTS TRUE TO NAME

Buyers of nursery plants are confronted with the problem of securing the varieties of fruits and shrubs they want. True, it is not difficult to find the names of the varieties desired in the catalogues. But after carefully unpacking, planting and cultivating too often only disappointment awaits us at fruiting time. Because of these experiences with unscrupulous growers of nursery plants, the purchasing public has rightfully grown suspicious. The result is that they have placed a premium on the man and his stock whom they can trust implicitly.

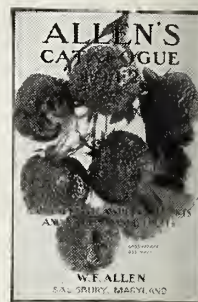
It is not just a case of losing a dollar or two dollars, as in the purchase of a bad pair of gloves or a hat. The first cost does not by any means represent the investment. The deception is not discovered until long after the purchase is made and expectations have mounted high as time for luscious fruit draws near.

It is, therefore, with considerable satisfaction that we commend the stock of W. F. Allen of Salisbury, Maryland, to our readers.

Mr. Allen has 120 acres planted to strawberries alone, in which there are over 100 varieties. While he has stood by many of the old standard varieties of proven worth, he has produced many new ones of great excellence.

Besides strawberries, Mr. Allen grows raspberries, blackberries, gooseberries, currants, grape vines, California privet and other small shrubbery on a large scale.

While Mr. Allen is probably the largest grower of small fruits in America, he does not sacrifice quality and accuracy to maintain his position for quantity produced. His advertisement appears in our columns, and we suggest anyone wishing to buy any nursery plants will do well to write for his catalogue. He guarantees every plant to be true to name, and sends a booklet on cultural directions free with each order. Turn to his advertisement.



be pruned away. In fact even a greater amount of the top should be removed than that removed from the roots, since the latter must become adjusted to their new quarters before their activities begin, while the former experience no radical difference in this respect. With yearling trees the necessary pruning for establishing low headed trees will reduce the top sufficiently. It is best to postpone the pruning of the tops until the trees have been set, at which time they are cut down within eighteen or twenty inches of the ground.

The trees should be conveniently located for the planters before planting operations begin. Some orchardists practice distributing and "heeling in" the trees in bunches near the place where they are needed. Other men puddle the trees in a tub which is placed on a low sled or stoneboat and drawn by a horse from place to place as the trees are needed. The puddle is made of loamy soil mixed with water to a slushy consistency. Heavy clay soils must not be used for making puddles. The use of this latter practice constitutes one of the safest and most satisfactory methods of handling trees in the field, for the roots are not exposed to the air at all.

Holes for apple trees must be large enough to accommodate all the roots and deep enough to allow the tree to set three or four inches deeper than it stood in the nursery. It is believed that the best results are secured by setting dwarf trees so that the union between the bud and the stock is four

Map of Hood River

SEND FOR IT
MAIL FREE

**CHAS. R. BONE
J. E. MONTGOMERY**

Land Brokers
Hood River, Oregon

Duncan Campbell & Co.

349 DAVIS STREET

SAN FRANCISCO, CALIFORNIA

Car Load Brokers and Distributors Citrus and Deciduous Fruits

Write or wire us regarding anything
you have to offer in carload lots.

Want pears for Eastern shipments;
also canning pears.

Satisfactory references guaranteed.

A Splendid Nursery FOR SALE

Includes 43 acres of good nursery land,
with stock and equipment.
Good reasons for selling.
Must be sold soon.

For further particulars, address
BEAVER REALTY COMPANY
ASHLAND, OREGON

THE MONARCH PRUNER

(Pat.)



Ideal hand-forged tool, with detachable saw,
and keen cutting edge. Makes smooth, clean
cut of largest limb or smallest twig. A simple,
durable and speedy pruner. Easy to sharpen.
Will last a lifetime. Approved by best fruit
growers. Write for circular.

THE MONARCH PRUNER CO.

Box 1463, Spokane, Washington

or five inches below the surface. The common error committed by most tree planters is to plant too shallow. Deep planting tends to develop a deeper rooting system; besides, it affords a better anchorage for the young tree. The size of a hole in hard soil should be greater than a hole dug in loose soil in order to aid the roots to get a good start. Though it is best to select a soil that is not underlaid with a hard, impervious sub-soil, still many men find that the only land they have for the orchard possesses this undesirable feature. Holes for trees on such soils should be especially large. In some instances it is advisable to use giant powder to break

up this hard soil. Mr. B. F. Hurst of Boise recommends that a hole be dug to a depth of two feet, and in the center of this hole another hole is bored to an additional depth of five feet. Giant powder is then exploded in the bottom of the bored hole. The exact use of the powder is described by Mr. Hurst as follows: "Use two sticks of giant powder for each hole. Drop one stick down in the hole. Loosen, at one end, the paper around the other stick of dynamite. At this end insert a sharp peg the size of the cap to be used. Attach the fuse to the cap and place the cap in the end of the powder. If there is water in the hole, cover the cap with wagon grease, then draw the paper and tie it around the string. Place this stick in the hole where the first stick was dropped, leaving the fuse about six feet long. The hole may be filled with water or fine earth, but must not be tamped. Touch the match to the fuse. It is probably superfluous to say that the operator should immediately remove to a considerable distance from the hole." When using dynamite great care must be observed, for it is extremely dangerous in the hands of the inexperienced. It is very essential that the stick to which the cap has been applied be lowered gently into the hole or a premature explosion may result. The safer practice in using this explosive is to employ experienced help. In removing the dirt from the hole that taken from the top-most six inches should be placed on one side, while that taken from the lower depths should be placed in a separate pile. The reason for this is that the surface soil is richer, containing more available plant food than the sub-soil, and is therefore better adapted for placing in immediate contact with the roots. The bottom of the hole should be thoroughly loosened by several thrusts of the spade, after which some of the surface soil is thrown in before the tree is placed in the hole.

After the tree has been placed in its exact position by means of a tree locator or by sighting the roots are spread out evenly in all directions and then the hole is filled. The first dirt put into the hole should be the rich soil from the surface. This should be worked tightly under and between the roots by using the fingers. Moving the tree up and down slightly will aid in getting the soil under the roots. The hole is then filled half full of surface soil and tramped down firmly, after which the hole is filled to the top with the other soil and again tramped. A few shovelfuls of loose dirt or a few forkfuls of manure thrown about the tree to prevent the loss of moisture completes the operation. The question is very often asked regarding the advisability of placing manure in the bottom of the hole. A forkful of fine, well rotted manure placed in the bottom of the hole may often prove beneficial, but coarse manure should never be used in this manner because it will heat and scald the roots. Spreading

the manure about the tree on the surface is generally regarded as the better practice.

Where the wind blows strongly from the southwest and west, as it does in many localities of Idaho, unless some windbreak exists it is very important that the tree be set so that it points strongly against the prevailing wind. Many trees that have been set on orchard sites exposed to the prevailing winds illustrates the need of using this precautionary measure, for where they were set straight they are now found to lean greatly away from the wind. Where orchard sites are particularly exposed windbreaks are especially advantageous. They stop the force of the wind, so that the trees are allowed to attain their normal shape instead of having their limbs on the southwest and west sides forced to grow up though the center of the trees. They prevent the loss of apples which autumn winds shake down at a time when their value is greatest. They protect the buds of winter from dying out and losing their vitality. Evergreen trees furnish ideal windbreaks, since the winds are broken at all seasons. Such barriers stop the sweep of winter winds as well as winds occurring during the growing season. The Norway Spruce, because it possesses these qualifications, is unsurpassed as a tree for windbreaks. The Lombardy poplar is used in some sections, but its roots are too extensive and its tops afford protection for only part of the season. The windbreak should be planted in advance of the apple trees in order that it may afford protection from the start. Spruces should be set ten feet apart with the rows at least forty feet from the nearest apple trees. Since most of the strong winds of Idaho come from the west and southwest a windbreak should occupy a position around the south and west sides of the orchard. In wind swept places a bank of evergreens, made in this manner half way around the orchard, should be regarded as a necessary part of good orcharding. This wall of evergreen will also add a delightful variety to the landscape in all seasons.

The orchardist should be sure to keep his trees growing vigorously during the first summer, as this is the most vital period in the history of an orchard. It is highly essential that the trees have a good start before

Do You Want a Home in the "BEAUTIFUL OZARKS" of Missouri

In the Famous Strawberry Land

Apples, peaches, pears, grapes, raspberries, etc., all grow excellently. Ideal location for dairy and poultry business. We offer for sale 60,000 acres of land in 40-acre tracts or more, cheap and on easy terms. Located in Stone and McDonald Counties.

For further information address

McDonald Land & Mining Co.
Rooms 301-2 Miner's Bank Bldg.
Joseph C. Watkins, Manager
JOPLIN, MISSOURI

midsummer in sections where irrigation is not practiced, for summer drouth is likely to prove fatal to trees of low vigor and slow growth. Thorough tillage is imperative for the best success whether the orchard be irrigated or not. Conservation of moisture in the soil and aeration of the soil are the main results to be attained by this cultivating. To this end any crop grown in the orchard the first summer should be one that requires frequent cultivating. Such crops as small fruits, potatoes, tomatoes or melons are well adapted to young orchards, while the grain and pasture or meadow crops should be avoided. Tillage should be continued until about the first of August, when it is well to sow some leguminous cover crop, such as hairy vetch or Canada field peas. Sown at this time or a little later, these crops will make sufficient growth to form a mat over the surface of the ground, and while making this growth they will aid materially in ripening the wood for the following winter. Such crops will prevent the washing and leaching of soils during winter, and when plowed under the following spring will add as much organic and fertilizing matter to the soil as a small coating of manure would furnish. The stubs which the orchardist has left after planting soon become covered with shoots issuing from every bud. The proper treatment of these shoots is an important consideration. Some rub off all the shoots as they appear excepting four or five which are left for the scaffold limbs. A better practice consists in rubbing off only the lowermost shoots, leaving about ten shoots to form leaves and to grow throughout the year. In allowing more leaf area a greater growth of root system is promoted, since the two parts are mutually dependent. The thinning out and the selection of the scaffold limbs is a task for the following spring. Diseases and insects are likely to make their visitation upon the young orchard during the first year. The orchardist must be ever watchful for their appearance and ready to shorten their stay to the minimum. Anthracnose on the trunk and shoots and scab on the leaves are likely to be the most serious diseases, while the apple borer, the green aphid and the San Jose scale are most prominent insects. Timely application of the best preventives and remedies for these pests is the only safeguard. Careful and frequent observations is the rule for success in dealing with such opponents.

During the first winter as well as in after years the orchardist must exercise every precaution to prevent injuries from mice, rabbits and gophers wherever these pests exist. Many of the young orchards are practically destroyed by field mice girdling the trees. Remedies of all descriptions have been recommended as repellants or poisons for these small pests, but the majority of the paints and washes so recommended are without merit, and in some cases are decidedly injuri-

ous to the trees. It is reported that the lime-sulphur wash, which is used in combating the San Jose scale, has been used effectively against both mice and rabbits. Until further trial has substantiated these reports the orchardist must rely upon methods which experience has proven efficacious in avoiding serious loss. Bulletin No. 31 of the Biological Survey United States Department of Agriculture summarizes the important measures for preventing the ravages of field mice as follows: "Protection of natural enemies of field mice, particularly owls, hawks, shrikes, snakes, skunks, badgers and most species of weasils. Elimination of the breeding grounds of field mice by draining swamps and cleaning waste places that afford the animals harborage. Periodic plowing of grass and other lands for the rotation of crops. Clean cultivation of corn and other crops, and especially of orchards and nurseries. Clean mowing of grass lands and permanent meadows, so that no old grass is left over winter. Careful burning about orchards and gardens of weeds, trash and litter of all kinds that may serve the animals for winter quarters. When necessary, the burning of dead grass in meadows and pastures. This, however, should not be delayed till late spring when ground birds are nesting."

Jack rabbits are serious pests affecting young orchards in Southern Idaho. One of the best measures used in preventing their ravages is to fence against them. In some sections where the snow becomes so deep that fences form no barriers, this method is of little value. Spraying or washing the trees with the lime-sulphur wash may prove valuable. Some orchardists in the state claim that their plantations have been protected by smearing the blood and entrails of rabbits over portions of trees liable to injury.

Orchardists should resort to killing the rabbits at every opportune time. To this end a series of rabbit drives should be inaugurated, for by them thousands of rabbits may be killed in a single day. In some parts of Idaho the pocket gopher inflicts fatal injury to young trees by gnawing away the roots. Poisoning has been found to be an efficient means of ridding fields of this pest. Parsnips, potatoes or carrots are prepared as bait by placing a few grains of strychnine into knife slits made in them. Such bait is deposited far back into the burrow of the gophers by means of a long handled spoon. Since the gopher does not possess the shrewdness and suspicious instinct found in many rodents, they take easily to these poisoned vegetables, which condition enables the orchardist to deal most effectively with them.

For the Vernon, British Columbia, district we are recommending the Wealthy to be planted with the Wagener as a pollenizer. They grow the Wealthy quite successfully there, and ship them out. In the Vernon country they grow the Wealthy, and they are a good shipper. In this country (Washington) the Wagener would probably beat the Jonathan.

The Oregon Agricultural College will hold its winter short course for fruit growers from January 3 to February 9. Every fruit grower who can possibly attend these meetings should not miss them. The subjects cover every feature of fruit growing, poultry and general farming, domestic science, forestry, music, etc.

The Washington Agricultural College winter short course opens January 2 and continues until February 10. These short courses are of inestimable value to the fruit grower during the winter months, when he can leave his orchard and take up this short course, comprising all subjects pertaining to fruit growing. Besides horticulture, other subjects are taught, such as general farming, domestic science, art, etc.

DONALD GROWN NURSERY STOCK

That is what you want, because our stock of fruit and ornamental trees is exceptionally fine. Our fruit trees were propagated from buds taken from bearing orchards; they are vigorous, healthy, and above all true to name; that stocky body, grown on whole roots, makes them an ideal tree to plant.

A POSTAL WILL BRING OUR PRICES DONALD NURSERY CO., Donald, Oregon

Mount Arbor Nurseries

E. S. WELCH, Proprietor 130 Center Street, SHENANDOAH, IOWA

Apple Seedlings—Fine stock, all grades, grown on new land and free from disease

Apple and Pear Grafts

Japan Pear Seedlings

Napoleon Cherry—1 year

Bartlett Pear—1 and 2 years

Carolina Poplars—1 year and larger in CAR LOTS

Make a specialty of a Complete Line of General Nursery Stock

We have superior storage facilities and carry a large assortment of stock in storage for winter shipments

Let us quote your wants

Our Unparalleled Clubbing Offer

"Better Fruit" offers to its readers what it considers the finest list of clubbing offers ever placed before the public in the Northwest. Its variety is one that must appeal to readers of all classes. Look it over carefully, select the one you want and send us the proper amount and we will do the rest.

The Ladies' World.....\$.50
Modern Priscilla75
"Better Fruit" 1.00

Total\$2.25
All for 1.85

Garden Magazine\$1.50
American Magazine 1.50
"Better Fruit" 1.00

Total\$4.00
All for 2.90

Delineator\$1.50
Good Housekeeping 1.50
"Better Fruit" 1.00

Total\$4.00
All for 2.75

Scientific American\$3.00
"Better Fruit" 1.00

Total\$4.00
Both for 3.50

Fruit Grower (St. Joseph)..\$1.00
"Better Fruit" 1.00

Total\$2.00
Both for 1.50

The Ladies' World.....\$.50
Pictorial Review 1.00
Modern Priscilla75
"Better Fruit" 1.00

Total\$3.25
All for 2.15

Good Housekeeping\$1.50
Cosmopolitan 1.50
World Today 3.00
"Better Fruit" 1.00

Total\$7.00
All for 3.70

Review of Reviews.....\$3.00
McClure's 1.50
Scribner's 3.00
"Better Fruit" 1.00

Total\$8.50
All for 6.15

The Etude\$1.50
"Better Fruit" 1.00

Total\$2.50
Both for 2.00

American Bee Journal.....\$1.00
"Better Fruit" 1.00

Total\$2.00
Both for 1.65

Review of Reviews.....\$3.00
Scribner's 3.00
Good Housekeeping 1.50
"Better Fruit" 1.00

Total\$8.50
All for 6.00

Everybody's\$1.50
American Magazine 1.50
Delineator 1.50
"Better Fruit" 1.00

Total\$5.50
All for 3.90

Housekeeper\$1.50
Review of Reviews.....\$3.00
McClure's 1.50
"Better Fruit" 1.00

Total\$7.00
All for 4.50

Country Life in America...\$4.00
Review of Reviews.....\$3.00
McClure's 1.50
"Better Fruit" 1.00

Total\$9.50
All for 6.75

Country Life in America...\$4.00
Outing 3.00
"Better Fruit" 1.00

Total\$8.00
All for 6.25

Review of Reviews.....\$3.00
Woman's Home Companion. 1.50
McClure's 1.50
"Better Fruit" 1.00

Total\$7.00
All for 4.50

Pacific Monthly\$1.50
"Better Fruit" 1.00

Total\$2.50
Both for 1.75

Success and National Post..\$1.00
American Magazine 1.50
"Better Fruit" 1.00

Total\$3.50
All for 2.70

Delineator\$1.50
Success and National Post.. 1.00
Everybody's 1.50
"Better Fruit" 1.00

Total\$5.00
All for 3.60

Good Housekeeping\$1.50
Success and National Post.. 1.00
American 1.50
Cosmopolitan 1.50
"Better Fruit" 1.00

Total\$6.50
All for 4.40

Century\$4.00
Everybody's 1.50
World's Work 3.00
"Better Fruit" 1.00

Total\$9.50
All for 6.60

Country Life in America...\$4.00
World's Work 3.00
Everybody's 1.50
Delineator 1.50
"Better Fruit" 1.00

Total\$11.00
All for 7.75

Kansas City Weekly Star...\$.25
"Better Fruit" 1.00

Total\$1.25
Both for 1.00

Woman's Home Companion..\$1.50
"Better Fruit" 1.00

Total\$2.50
Both for \$1.80

Woman's Home Companion..\$1.50
McClure's 1.50
"Better Fruit" 1.00

Total\$4.00
All for 3.00

Weekly Oregonian\$1.50
"Better Fruit" 1.00

Total\$2.50
Both for 1.75

Sunset\$1.50
"Better Fruit" 1.00

Total\$2.50
Both for 1.90

Everybody's\$1.50
St. Nicholas 3.00
"Better Fruit" 1.00

Total\$5.50
All for 4.50

Breeders' Gazette\$1.75
"Better Fruit" 1.00

Total\$2.75
Both for 2.00

Northwest Poultry Journal..\$.50
"Better Fruit" 1.00

Total\$1.50
Both for 1.25

World's Work\$3.00
Everybody's 1.50
Delineator 1.50
"Better Fruit" 1.00

Total\$7.00
All for 4.50

Garden Magazine\$1.50
"Better Fruit" 1.00

Total\$2.50
Both for 1.90

Good Housekeeping\$1.50
Pictorial Review 1.00
"Better Fruit" 1.00

Total\$3.50
All for 2.50

These rates do not apply in Canada owing to extra postage

The Gravenstein Apple Show Held at Sebastopol, California

By J. P. McDonell

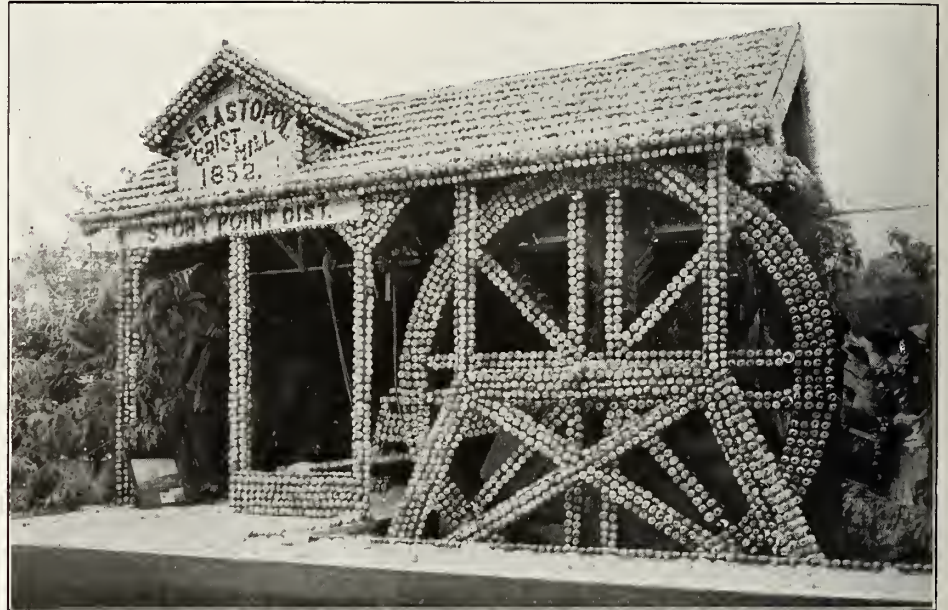
APPLÉ growing throughout the West and Northwest sections of the United States has developed during the past few years into one of the most extensive and profitable industries in the great field of horticulture. In nearly all localities where the adaptability of soil and climate to the successful culture of apples has been demonstrated the great king of fruits has been firmly established as a commercial leader. As a means of stimulating local interest, as well as for the purpose of attracting the attention of the outside world to the great results that may be obtained from the application of brains and energy to the growing of apples, many districts throughout California, Oregon, Washington and other states have adopted the plan of holding annual apple shows. In this connection it can well be said that the Gravenstein Apple Show, which is annually held in Sebastopol, Sonoma County, California, is the most unique of all apple shows. The two principal reasons why this show stands in a class by itself are: First, the time of the year that it is held; secondly, the fact that it is comprised almost exclusively of one variety of apples—the Gravenstein.

The first Gravenstein Apple Show, launched more as an experiment than with a view to making it a regular annual event, was held in Sebastopol August 10 to 14, inclusive, 1910. A large circus tent was provided for the occasion, and so heartily and resolutely did everyone work in welding the thousand and one minute details into a perfect whole that when the

opening hour arrived the success of the show was assured so far as the pleasing and artistic effect of the many feature and commercial exhibits was concerned. However, it was not until the doors were thrown open and thousands of people from all parts of the

increased attendance, and on the closing night it was almost impossible to accommodate all who came to see old King Gravenstein in his hour of triumph.

Visitors from other parts were of one opinion—that to duplicate the



Feature exhibit at the Gravenstein Apple Show, Sebastopol, California, August 21 to 26, 1911, showing an old grist mill that years ago was located on the same grounds on which the show was held. This wheel revolved, and was covered with electric lights, making a beautiful scene

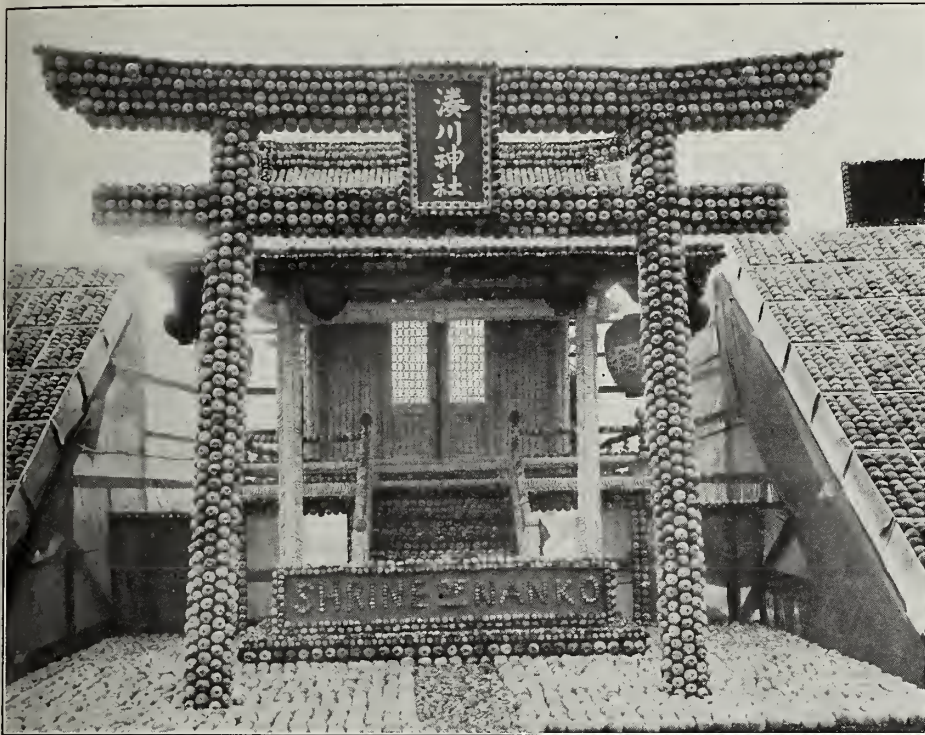
state began to file into the big pavilion that the promoters of the apple show relaxed and settled down to the happy realization that their efforts were to be crowned with financial success. Each day and evening brought forth an

1910 Gravenstein Apple Show would be difficult; to excel it impossible. However, the people of Sebastopol and surrounding country, early in 1911, entered upon the preliminary work of arranging for the Second Annual Gravenstein Apple Show with a determination to excel the exhibition of the year before. The experience gained in the initial effort was of great value in the second undertaking. Meetings were held in the various districts that comprise the Sebastopol Gravenstein apple section, and in each of these districts committees were appointed to arrange for a district feature exhibit. Pleasant Hill, Forestville, Stony Point and other districts heartily entered into a good natured rivalry for the feature exhibits' first prize. Greater effort was put forth for the capture of this trophy than for the grand sweepstakes prize, and the result was that the feature exhibits at the 1911 show were the most unique and original that the mind could imagine.

The first district feature exhibit prize was won by the Pleasant Hill district. It consisted of a large side-wheel steamboat completely covered with green and evaporated apples. The craft floated in water, and the paddle wheels and walking beam were kept in constant operation. Every detail of the steamer was worked out to the most minute point. Other feature exhibits, both district and individual, were an old-fashioned grist



A novel feature exhibit at the Gravenstein Apple Show, Sebastopol, California, August 21 to 26, 1911. This was called the "Peek-a-boo Apple" or "Gravenstein Is King." Within the apple was a panorama view of the orchard from which these apples in the feature were taken, which was the center of much interest



The Shrine of Nanko, the Japanese Church. This took the third prize, and was one of the most beautifully gotten up of the feature exhibits at Gravenstein Apple Show, Sebastopol, California August 21 to 26, 1911

mill and water wheel, a miniature farm, the "Old Oaken Bucket," a replica of the Analay Union High School, the Garden of Eden, an aeroplane, and so on down the line of thought and genius. Every feature exhibit was made up entirely of Gravenstein apples and not a detail was overlooked.

There were many carload exhibits showing the commercial pack, and in this line there were also innumerable exhibits of one, five, ten, twenty-five and fifty boxes. The commercial pack, arranged as it was along the four walls of the large pavilion, formed a perfect and beautiful frame for the show. Nevertheless the feature exhibits were the drawing card and thousands of people paid admission many times during the week, and each visit to the show revealed something that had been previously overlooked. An exhibit around which much attention centered was that of Luther Burbank, the great wizard of plant life, whose

experimental gardens are within half a mile of Sebastopol. The 1911 Gravenstein Apple Show was officially opened by Mr. Burbank.

The Gravenstein apple matures in the Sebastopol section from six weeks to two months earlier than in any other part of the United States, and this is why an apple show can be held here during the first days of August. The Gravenstein Apple Show has been firmly established as an annual festival and a feature in the social and business life of Sebastopol. The show is held under the auspices of a duly incorporated association comprised of business men and apple growers. This year a canvas pavilion 110x260 feet was made to order for the association. In addition to Gravensteins, there were on exhibition at the show this year nine varieties of perfectly colored and absolutely matured apples. The show was opened on Monday evening, August 14, and closed on Saturday night, August 21.

WE HAVE ONLY A FEW THOUSAND OF THOSE

Yellow Newtown, Spitzenberg, Ortley, Arkansas Black and Winter Banana

that you saw a photo of in the October and November issues. We have some small lots of other leading varieties, as well as pears, cherries and peaches.

Bear in mind that these trees were all grown on well drained virgin soil, on No. 1 whole roots, all buds selected from the best bearing trees in Hood River, and we guarantee every tree true-to-name. You can save agent's profit if you buy direct from us.

Write at once for prices, before it's too late. Address

TRUE-TO-NAME NURSERY

PHONE 2002K

HOOD RIVER, OREGON

Trees that have come fully into bearing should be pruned annually, the same as other trees, only not quite so heavily as young trees. It is now a question of fruit producing, and no longer of wood; so do not prune to produce wood. Cut back along the branches from one-half to two-thirds of the original length, and thin out as is necessary.

Probably the best method of building up light, sandy soil is by means of cover crops. We advise that such plants as rye or wheat be started about the middle of August. Permit them to grow until the following spring, then work in, later using clover or alfalfa.

Ansbacher's

"TRIANGLE"
BRAND

Arsenate of Lead

PURE SAFE
FINE

Fineness Gives Adhesion.

Purity Gives Safety.

Easiest to Mix and Spray.

Quickest to Kill.

Made for Growers Who
Want the Best.

If your dealer don't have it
write us at once.

A. B. Ansbacher & Company
NEW YORK

THE OLD RELIABLE Albany Nurseries

Received highest award for display of apple trees at the big California Apple Show at Watsonville.

The above speaks for us.

For good grade of nursery stock and right prices address

The Albany Nurseries

(INCORPORATED)
ALBANY, OREGON

Salesmen wanted. Easy to sell
our trees.

SALEM HEIGHTS NURSERY

Royal Ann, Bing and Lambert Cherries, on true Mazzard roots and guaranteed true-to-name a specialty. Scions cut from selected bearing trees. Also a fine stock of Spitzenberg, Yellow Newtown, Jonathan and Delicious Apples, Berry Vines and Bushes, and Choice Roses.

Write what you want and I will quote you living prices

H. H. CROSS, 532 North Liberty Street, Salem, Oregon

SEEDS

THE KIND YOU CAN'T KEEP IN THE GROUND

They grow, and are true to name
Write for prices on your wants

188 Front Street J. J. BUTZER Portland, Oregon
Poultry Supplies, Spray, Spray Materials, Fruit Trees, Etc.

Woman Orchardist Leads the World

Echoes from Recent New York Land Show

WITH the close of the first great land show held in Atlantic Coast territory, the East has surely learned something about the West. Easterners have been shown. Apples, oats, winter wheat, barley and alfalfa from the Northwest made a clean sweep of first prizes. The Northwest States carried off the honors in a keen competition open to the entire country, in fact the apple competition was open to the world. But the most astounding thing of all is that a woman won the first prize in this exhibit of the great national fruit.

Mrs. Ella D. Rowland of Zillah, Washington, was awarded the unique prize of \$500 in gold coin presented

in a handsome plush-lined leather case from President Howard Elliott of the Northern Pacific Railway, and a \$1,000 silver trophy cup offered by A. G. Hanauer of Spokane. In second place in the apple contest was Mr. Robert Johnson of North Yakima. To Mr. Johnson was presented a beautiful silver trophy cup donated by President Elliott and engraved with Mr. Johnson's name and the purpose of the cup. At the announcement of these prizes the many Westerners present gave three cheers for the productive Northwest. On winter wheat Mr. James Todd of Geyser, Montana, took first prize, a silver cup donated by Mr. J. J. Hill. On oats a silver cup

MR. PLANTER: We are ready to serve you when you are ready to buy your

TREES

We can satisfy you both as to **QUALITY** and **PRICE**. Our trees have the highest possible developed **ROOT SYSTEM** and are **TRUE TO NAME**.

Send for Catalog and Prices

Yakima and Columbia River Nursery Co.

NORTH YAKIMA, WASHINGTON

Salesmen wanted

Write for terms

MIDWEST RASPBERRY

Large glossy black raspberry. Great producer. Send at once for catalogue describing this great new berry and our extra heavy rooted true-to-name fruit trees, grape vines, small fruit plants and ornamentals. Prices low and quality high.

The Peru Nursery, Box 401, Peru, Nebraska

Deal Direct and Save Agents Commission

We offer a full line of fruit trees grown on whole-root stock; also nut trees, small fruits, roses, etc. Our prices are sure to interest you. Catalog and price list on application

P. S.—Enclose this ad

Lafayette Nursery Co., Lafayette, Oregon

Nursery Catalog

NEW, HANDSOME, INSTRUCTIVE, UP-TO-DATE

Describing Fruit and Ornamental Trees, Shrubs, Vines, Roses, Berry Plants, etc.

Free on request. Write now, mentioning this paper

J. B. PILKINGTON, NURSERYMAN, PORTLAND, OREGON

Hemingway's Arsenate of Lead

A PERFECT PRODUCT
PROPERLY PACKED
HONESTLY PRICED

Guaranteed to meet all requirements of the various State Agricultural Authorities

Produced in a factory which has specialized in Arsenical Poisons for 35 years, and amply complies with the new Federal Insecticide Law.

Analysis Given on Every Package

For Coast prices and supplies address the agents,

Kerr, Gifford & Co.

PORTLAND, OREGON

LINDSAY & CO. LTD. Wholesale Fruits

HELENA, MONTANA

Established in Helena Quarter of a Century

Branch houses: Great Falls, Missoula and Billings, Montana

Burpee's Seeds that Grow

140 VARIETIES ANY QUANTITY

Plenty of stock in our 40,000 pounds

Growing Plants as season requires

All makes high grade

Pruning Tools

Garden Tools

Hose and Spray Nozzles

International Stock and

Poultry Food

International Remedies

Incubators and Brooders

Everything for Building

Everything for Furnishing

Stewart Hardware & Furniture Co.

Hood River, Oregon

22,000 feet floor space

The Seeds that Yield Are Sold by Field



My seeds are different because I grow them, or select them from the stock of other growers, according to my own standards. Of course you're "some gardener and some farmer" yourself. So am I—if I may be pardoned for saying it—and I feel pretty sure that, in my twenty years' gardening, farming and fruit growing experience, I've picked up some things that you haven't. These facts I have put into my Catalog, and if you need it you can probably save a lot of trouble, time and money.

Mine Is A Different Catalog

Take your vegetable garden—take beans, for instance. There are a lot of *good* beans, but only two or three *best* kinds for you. My book tells about beans in such a way that you can pick out the best ones for *your* place, right off. Same way with farm seeds—you know what a reputation my field corn has. The new strains of corn I have produced have raised the standard of corn production all over the West. And same way with seeds for that flower garden—I'm mighty proud of what the women folk think of my flower seed.

Get my Catalog NOW—right now, when you have time to sit quietly down and read it through. Drop me a line now, I'll be pleased to send you a Catalog by next mail.

HENRY FIELD, President

Private Desk 9

Henry Field Seed Co., Shenandoah, Iowa

went to Messrs. Patton and Hartman of Bozeman, Montana. On barley the first prize of a silver cup went to Mr. R. Fisinger of Manhattan, Montana. On alfalfa Dr. W. X. Sudduth of Broadview, Montana, won the first prize. In the apple contest there were thirty exhibitors, representing prac-



Mrs. Ella D. Rowland, Zillah, Washington, winner of the first prize at New York Land Show, 1911

tically all of the apple growing districts in the United States and Canada. The first twelve exhibitors who scored the highest were all, with one exception, from the Northwest States. A New York state exhibit ranked sixth in the list. But just to show what it could do, the Northwest had five competitors lined up with higher scores than the Eastern orchards.

Mrs. Ella D. Rowland of Zillah, Yakima County, Washington, went to that famous valley eighteen years ago with her husband and settled in their present location, consisting of thirty acres, twenty-nine of which are in apples at the present time. They originally cultivated hops on their ranch with good success, afterwards planting it to apples. Mr. Rowland died last June, since which time Mrs. Rowland has managed the ranch, steadily producing those apples which have now placed her in the lead of orchardists the world over. The land which grew these apples originally cost the Rowlands \$40 per acre. Mrs. Rowland now values her land at \$1,600 per acre. She does not care to sell, however, as she intends to

Position Wanted

As manager or foreman of orchard, by experienced horticulturist, who has had several years' experience in Hood River district and can furnish best of references. Address W. L. D., "Better Fruit."



MAKE YOUR \$5,000 FARM WORTH \$25,000

A farm that yields \$1,000 a year is worth, say, \$5,000; if it yields \$5,000 a year, it is worth \$25,000, and so on. It takes good management and *many* acres to produce \$1,000 net each year raising grain and stock. Good management on only a few acres will produce \$1,000 net a year growing fruit.

ORCHARDS DO IT; THEY ARE SAFE AND PROFITABLE

With modern methods you can produce large crops of perfect fruit every year. Market conditions are such that you can sell this fruit for at least three times the producing cost. Granted that you have the ambition and the energy, and sufficient capital, you are absolutely safe in planting an orchard. If you know how, so much the better; if not, don't let that hinder you—we'll tell you *how*.

"HOW TO GROW AND MARKET FRUIT"

Explains what is needed, why it's needed, and then directs you how to do everything required. Nearly 150 pages, 24 pages of pictures that show how, strongly bound, will last for years. Free to customers who buy \$5 worth or more of trees. To others the price is 50 cents, subject to rebate on \$5 order.

Our 1912 live catalog tells you what you ought to know when you plant trees. Ready in February, and sent free. Write for it today.

HARRISON'S NURSERIES

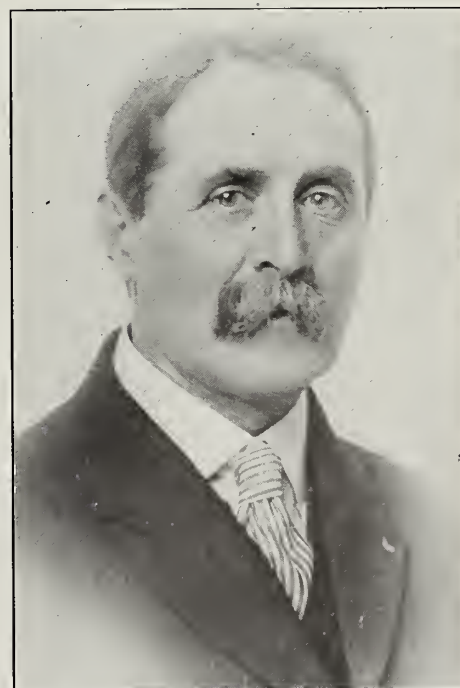
FOREST AVENUE

BERLIN, MARYLAND

Valuable Maryland and Delaware farms for sale—write for particulars.

remain on the ranch and manage it herself. She attributes her success to careful and systematic cultivation backed up by natural conditions, consisting of the best of soil and abundant sunshine.

Mr. Robert Johnson, winner of the second prize in apples, has a fifteen-



Mr. Robert Johnson winning second prize for apples at New York Land Show, 1911

acre ranch in Fruitvale, adjoining the City of North Yakima. He went there fourteen years ago, locating on his present ranch, which he has gradually developed into a model orchard. Mr. Johnson has 2,075 trees on his place, from each one of which he looks for a certain production of apples each season, assuring his results by the utmost vigilance in caring for his trees and in the most scientific cultivation. All of the apple exhibitors had several varieties in their exhibits, and each was judged strictly from the standpoint of quality, color, size, uniformity, condition and pack.

President Howard Elliott of the Northern Pacific, as soon as the news was telegraphed to him, wired as follows: "Congratulations to the managers of the New York Land Show and to the productive Northwest, which carried off first prizes for apples, winter wheat, oats, barley and alfalfa, all but one grown in territory tributary to Northern Pacific Railway, the pioneer line from Lake Superior and Mississippi River to the Columbia River and Puget Sound. The Northern Pacific and the great Northwest have worked together for thirty years, but the next ten will show a far greater growth in agriculture, commerce and good citizenship than has been accomplished in the last thirty, and the winning of these prizes shows the possibilities of the beautiful Northwest States. This is a fine thing for our section of the country."

On Friday, the tenth, Mr. C. I. Haverstraw of New York was awarded the Northern Pacific gift of 160 acres of land in Dawson County, Montana. Mr. Haverstraw will take possession immediately and cultivate his land. "I have always looked upon the Northwest as an ideal home," said he. "It's me for Montana and adieu to Broadway."

The attendance at this, the first great land show to be held in the Eastern States, has exceeded the expectations of the promoters. Madison Square Garden has been thronged from opening hour in the morning until late at night. While the total count is not in at this time, it is estimated that close to 200,000 people have visited the land show during the ten days it has been open.

Among the exhibits, the railways and districts of the West and Northwest have been prominently in evidence. Across one entire end of the building the Northern Pacific had a most elaborate exhibit of vegetables, fruits, grains and grasses from the states it traverses, and fish and oysters from the North Pacific Coast districts served by its lines. Eight thousand people registered at the Northern Pacific exhibit as being definitely interested in the Northwest. These people will be personally solicited, as far as possible, to make a trip of inspection and choose a future home in the Northwest, the land of prosperity.

Prepare to Save Your Fruit Crops from Frost

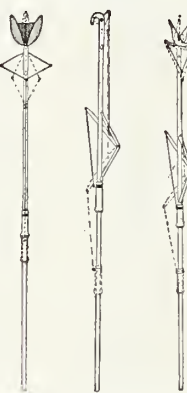


Next season by ordering Orchard Heaters now. It has been proven without doubt by four years' trial that National Orchard Heaters will afford the surest protection and do it with less expense than any others. The True Principle of Orchard Heating, according to Government reports, is to increase the number of heaters used to the acre rather than to increase the size of the heaters. We have always recommended 80 NATIONAL HEATERS to the acre, which number has been ample to save the crops. WRITE today for full information and prices.

The National Orchard Heater Co.

Grand Junction, Colorado

MADE IN OREGON



Bastian Pruning Implements

In A Class by Because they're the most powerful and quickly operated. The Reason See that Lever and Slide? A combination that makes pruning easy. No long wires to bend. No sticking of blades. Cuts the smallest twig or inch limb with the greatest ease.

Quality Every tool carefully made, properly put together, and Counts blades of first quality tool steel. Back of this is our guarantee to replace any tool that is not satisfactory.

Hooks for heavy work. Shears for light work, heading back and thinning out.

Bastian You'll want one next season. Just as good as the Pruners. Pickers Standard lengths 5 to 16 foot.

Hooks, 5-foot, \$2.40. Shears, 5-foot, \$2.90. Pickers, 5-foot, \$1.90. Add 5c per foot for each additional foot in length.

If your dealer does not handle the Bastian Pruning Implements and Pickers, write direct to

American Pruning Implement Co., Inc.

Good Agents Wanted Office 210 Front St. Factory 214 Front St. PORTLAND, OREGON

NOTICE—SPECIAL SALE

Apple Trees, Peach Trees, Prune Trees, at prices that are lower than the lowest, and for trees that cannot be surpassed by any. Also full line of other nursery stock. Write for special list, mentioning "Better Fruit," to

J. H. LAUTERMAN, SALEM, OREGON

New Hood River Map Free

Write BONEBORO ORCHARD CO.

HOOD RIVER OREGON

Order Fertilizer NOW

For Delivery by March

By so doing you will avoid the delay in delivery caused by the rush in orders which occurs every spring. Your fertilizer should be sowed in early spring during the first lull in the spring rains. The rains which follow will thoroughly disintegrate the fertilizer, producing a plentiful supply of humus for the year's crop, and things will grow in abundance and to perfection. The cost is a trifle compared with the increased results obtained—bigger crops, better produce, highest prices.

Beaver Brand Animal Fertilizers

Will prove a revelation to you. Sow them this spring and compare this year's crop with last. You will see that your investment has been the most profitable one you ever made.

Our "A-Special" fertilizer for hops is a perfect wonder-worker—produces larger hops of better quality. Write for testimonials and booklet explaining how these fertilizers work. The information is worth hundreds of dollars to any farmer. It is free for the asking.

UNION MEAT CO., North Portland, Oregon



SPRAYING TREES

with the H. P. SPRAMOTOR means that the trees will be adequately protected. The horse does everything but direct the nozzle, and that you will prefer to do yourself. The SPRAMOTOR can be operated by hand where preferred. Has 8 nozzles with 175 pounds pressure. The number of nozzles can be arranged to suit size of trees. No tree too large. The SPRAMOTOR is equally efficient for vineyards, row crops, or grain, and the nozzles will not clog.

Get our free treatise on crop diseases

AGENTS WANTED

R. H. HEARD

1333 Erie Street BUFFALO, NEW YORK

Irrigation in New Mexico

THE New Mexico advisory board, appointed by Governor Mills, organized by the selection of Willard E. Holt of Deming, chairman, and H. B. Hening, secretary of the New Mexico Bureau of Immigration, as secretary. Mr. Hening writes: "At the organization meeting of the advisory committee were present Governor Wm. J. Mills, President G. L. Brooks of the New Mexico Bureau of Immigration, and a great many of the men who have been prominent in the development of the new state. Since the Sixteenth Annual Irrigation Congress at Albuquerque in 1908 New Mexico has been represented by large delegations at every congress. New Mexico took a prominent part in the congress at Pueblo in 1910, its delegates traveling in a special train, accompanied by a band, and a larger delegation attended the Chicago congress. Mr. Willard E. Holt, chairman of the committee, is an authority upon the under-

ground waters of the Southwest. He lives at Deming, the original pumping district of New Mexico, where more than 200,000 acres of shallow water land has been taken up during the past eighteen months, and where desert land has advanced in that time from fifty cents to one hundred dollars an acre through the magic of the pump. Colonel W. S. Hopewell, of the national board of governors, makes his home at Albuquerque and is very active in stimulating interest in the congress. Dr. E. McQueen Gray, foreign secretary of the congress, is president of the University of New Mexico. F. A. Hubbell of Albuquerque is honorary vice-president for the new state." Pumping for irrigation is producing marvelous results in other Western States as well as New Mexico, notably in Texas, Arizona, Utah, Oklahoma, Kansas and Colorado.—Contributed.

CHICO NURSERY COMPANY

GROWERS OF

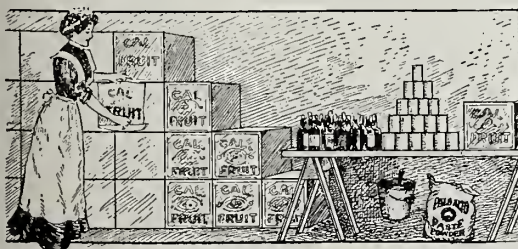
High Class Nursery Stock

The best that good soil, care, skill and long experience can produce

Write us for prices on Grape Vines, Cherries, Apples, Peaches, Pears, Nut Trees, Ornamental Shade Trees, Flowering Shrubs and Roses
Peach Seed For Sale. Catalogue Free

CHICO NURSERY COMPANY, Chico, California

PASTE FOR LABELING "PALO ALTO" PASTE POWDER



added to cold water, instantly makes a beautiful, smooth, white paste. Ready for immediate use at a cost of ten cents a gallon. No labor. No muss. No spoiled paste.

Paste Specialists

Robinson Chemical Works

349-351 Eighth Street

San Francisco, California

HIGHEST QUALITY SEEDS PLANTS & BULBS GARDEN SUPPLIES

Send for Our 112-Page Catalog and Guide

Devoted to Vegetable, Farm and Field Seeds

Flowering Bulbs, Plants and Roses

Fruit Trees and Shrubs

Fertilizers, Sprays and Spray Pumps

Garden and Farm Tools

Poultry and Stock Foods and Supplies

Gold Fish and Canaries, Etc.

The world's best growers and manufacturers supply our stocks. Read our catalog and be convinced. Your orders should remain on this Coast. Why send East when we have "Highest Quality" stocks and the RIGHT KINDS FOR THE WEST. Write us today. A post-card will do. Ask for Catalog No. 27, the new one.

Routledge SEED & FLORAL CO.

169 Second Street

PORTLAND, OREGON

The Campbell System

INSURES your crop against DROUTH. Our experience in 1910 and 1911 has proven that good crops can be grown with less than eighteen inches of rainfall. Those who followed the Campbell System in 1910 have a crop in 1911.

DON'T TAKE ANY RISKS FOR 1912

Campbell's publications explain the system.

Campbell's Soil Culture Manual . \$2.50

Campbell's Scientific Farmer . . \$1.00

Combination Price \$3.00

Address

CAMPBELL SOIL CULTURE CO.
Lincoln, Nebraska

When you write ask about the Campbell Correspondence School.

The Tim Kelly Nurseries **TIM KELLY** PROPRIETOR

WAPATO, WASHINGTON

Two Million Trees for Fall and Spring Planting

I have a splendid stock of APPLES, PEACHES, PEARS, PLUMS, PRUNES,
ORNAMENTAL TREES AND ROSES

For Special Prices write to TIM KELLY, Box 197, WAPATO, WASHINGTON



Hood River Standard Nursery Company.
Hood River, Oregon.

Gentlemen:-

Last Fall through the Baltimore Orchard Company, I purchased a quantity of assorted apple trees from you, the same being shipped to me by freight.

My idea in going to Hood River for trees was that the delicious and attractive fruit that is shipped into this market from Hood River impressed me that surely a community that could grow such fine fruit, certainly ought to be in good position to supply equally as good trees, and it gives me great pleasure to state, that out of the quantity that I purchased from you, not one of the trees have died nor are they blemished in any way whatsoever, and the growth far exceeds other apple trees purchased in this vicinity and planted at the same time.

Very truly yours,

"That's All— That is Enough"

A RECORD

that should be the most convincing proof to you of the quality of the trees produced by our nursery. THINK OF IT—shipped 3,000 miles, by freight, late in the season—planted late, in a different climate, a different soil—and ALL lived—outgrew everything else in the orchard. IS THAT NOT SUFFICIENT PROOF OF QUALITY?

REMEMBER

also, that all of our trees are grown on whole roots, non-irrigated—are bred from the greatest producers and most vigorous trees in Hood River Valley. They are the most carefully grown and carefully packed trees that you can purchase. They are in every sense a strictly thoroughbred, pedigreed fruit tree. They cost no more, BUT THEY ARE THE KIND YOU NEED.

Write for our illustrated catalogue and price list

Hood River Standard Nursery Co.

'Phone, Odell 8 X 2

HOOD RIVER, OREGON

Branch Office, 401 Continental Trust Building, Baltimore, Maryland

P. S.—We want a few good live salesmen to represent us.

Two Large and Reliable Dealers in Western Orchard Lands

(BOTH COMPETITORS OF OURS)

Said that We Were Developing the Best Orchards in the United States

The A. C. Bohrnstedt Co.
316-317 U. S. National Bank Building
Salem, Oregon

Gentlemen: I have \$.....to invest in an Orchard Home. Please send me your Artistic Booklet descriptive of Orchard Homes at Creswell, Oregon.

Name

Address

DO YOU WANT THE BEST?

If so, send to-day for our Artistic Booklet descriptive of Orchard Homes at Creswell in the beautiful Willamette Valley of Oregon

The A. C. Bohrnstedt Company

316-317 U.S. National Bank Building, SALEM, OREGON

Other Offices, 917 Andrus Building, MINNEAPOLIS, MINNESOTA

LESLIE BUTLER, President
 TRUMAN BUTLER, Vice President
 C. H. VAUGHAN, Cashier

Established 1900

Butler Banking Company

HOOD RIVER, OREGON

Capital fully paid - - - \$100,000

INTEREST PAID ON TIME DEPOSITS

We give special attention to Good Farm Loans

If you have money to loan we will find you good real estate security, or if you want to borrow we can place your application in good hands, and we make no charge for this service.

THE OLDEST BANK IN HOOD RIVER VALLEY

SLOCOM'S BOOK STORE

Office Supplies
Stationery

Ledgers, Journals, Time Books

Memorandum Books

Rubber Stamps

Souvenir Postals Picture Frames

Pumping for Irrigation

WRITING the headquarters of the Irrigation Congress at Chicago, Mr. R. H. Faxon of Garden City, Kansas, says: "Pumping for irrigation is receiving much attention in Western Kansas, and because of the importance of irrigation to this district you may rest assured that we will be well represented at Chicago." Kansas has always taken an active part in the meetings of the Irrigation Congress. Professor E. H. Webster of Manhattan, is honorary vice-president for Kansas and Mr Faxon represents the state on the executive committee. Mr. Faxon writes: "The government, the state and Finney County combined in a three-cornered arrangement for the erection of a pumping plant costing upward of \$5,000 to test out properly the feasibility of irrigation on our uplands. In what is known as the Garden City district, including Finney County and portions of Kearny and Gray Counties, there are about 75,000 acres under irrigation in the Arkan-

sas Valley of Western Kansas proper. Lying to the north is the 'shallow water empire' of 100,000 acres awaiting development by pumping, with ample water lying at a depth of from ten to twenty feet. Work on this project has already commenced. Of the 75,000 acres lying in the valley near Garden City pumping, largely by private plants, is the principal means of irrigation. We have been fortunate, indeed, this summer in the location here of the United Well Works, which has brought in several wells from 40 to 100 feet deep, flowing from 1,500 gallons per minute to 2,500. It is estimated that a well flowing 1,500 gallons per minute will easily take care of 160 acres. We also have two large private plants, one taking care of 900 acres and another of 1,000 acres, as well as the United States Sugar & Land Co., with its producer gas plant, transmission line and pumps serving 5,000 acres."—Contributed.

SEATTLE

Increased 194 per cent in population, according to Uncle Sam's last census. This is more than any other large city in the PACIFIC NORTHWEST.

WASHINGTON

Leads all states of the Union in growth, having increased 120.4 per cent, according to the same authority. If you want accurate information about Seattle and Washington, subscribe for

PACIFIC NORTHWEST COMMERCE

The official publication of the Seattle Chamber of Commerce. Comes monthly, \$1.50 a year.

Address

PACIFIC NORTHWEST COMMERCE

Suite 842 Central Building
SEATTLE, WASHINGTON

New Residents

We are always pleased to extend courteous assistance to new residents of Hood River and the Hood River Valley by advising them regarding any local conditions within our knowledge, and we afford every convenience for the transaction of their financial matters. New accounts are respectfully and cordially invited, and we guarantee satisfaction. Savings department in connection.

Hood River Banking and Trust Company
HOOD RIVER, OREGON

LADD & TILTON BANK

Established 1859

Oldest bank on the Pacific Coast

PORTLAND, OREGON

Capital fully paid - - - \$1,000,000

Surplus and undivided profits - - - 800,000

Officers:

W. M. Ladd, President

Edward Cookingham, Vice President

W. H. Duncleley, Cashier

R. S. Howard, Jr., Assistant Cashier

J. W. Ladd, Assistant Cashier

Walter M. Cook, Assistant Cashier

INTEREST PAID ON TIME DEPOSITS AND SAVINGS ACCOUNTS

Accounts of banks, firms, corporations and individuals solicited. Travelers' checks for sale, and drafts issued available in all countries of Europe.

CAPITAL STOCK \$100,000 SURPLUS \$22,000

First National Bank

Hood River, Oregon

F. S. STANLEY, President

J. W. HINRICHS, Vice President

E. O. BLANCHARD, Cashier

V. C. BROCK, Assistant Cashier

ESPECIAL ATTENTION AND CARE
GIVEN TO BUSINESS DEALS
FOR NON-RESIDENT CUSTOMERS

Thorough and Conservative
Assets over \$500,000

Savings Bank in connection



Display made by Fred Whiteside at Montana State Fair, Helena, Montana, September 25, 1911

Montana State Fair at Helena

THE fruit exhibit of the Montana State Fair at Helena, September 25, 1911, fully came up to the standards of past years in quantity. It is safe to say that the quality was better than that of previous years, and such should be the case in a developing fruit state. Each fair sees the entries swelled with efforts put forth by some newer fruit section. This year Lincoln County, a new county and a new fruit growing locality, appeared with a display of fruit that carried off its share of first prizes and spoke well of the county's possibilities in fruit growing.

The display of fruit entered by Mr. Briggs of Victor, Montana, carried off the cup offered for the best display of

fruit, and the Bitter Root Valley again demonstrated its possibilities as a fruit growing section. The display of fruit entered by the County of Missoula was indeed creditable and won a goodly share of first premiums on plate exhibits. Flathead County was well represented by the exhibits of Mr. Whiteside, and Saunders County was always found at least close to the top in competition for prizes on plate exhibits and packed boxes. Many other counties displayed excellent collections of fruit in connection with other exhibits, which at least demonstrated the fruit growing possibilities of many sections which do not boast of their ability to grow fruit.—Contributed.

WHEN you buy spray for you trees, you do not need to ask your dealer if they will do the work; just order "Devoe." That name is your assurance that you'll get the results you want.

While Devoe sprays cost no more than other good sprays, their cheapness isn't in their first cost, but in the results in the crop.

Devoe Arsenate of Lead is the best insecticide on the market. It comes in pulp or dry form — both effective. Keeps indefinitely; will not clog the sprayer. It is pure, deadly, strong.

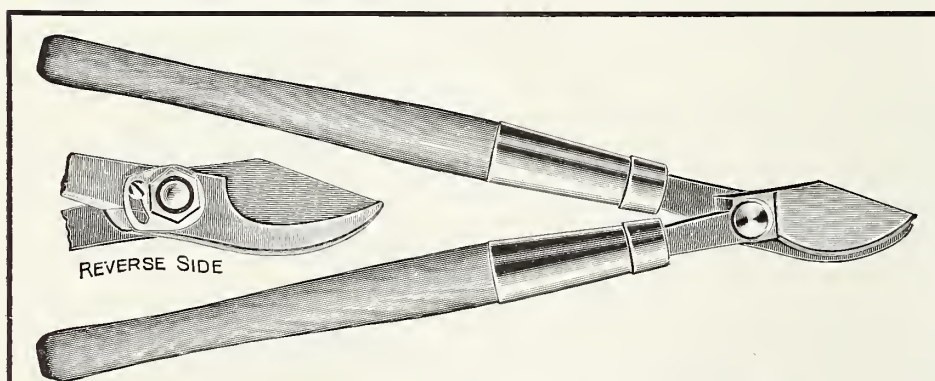
Devoe & Raynolds Paris Green is absolutely pure, strong and effective. It's made to kill potato bugs and other insects; it does. We don't need to say anything else about it; that's enough.

Devoe Lime and Sulphur solution for San Jose Scale and other things has the advantage over the home-made of never varying in strength or purity. It is not only a fungicide but an invigorator and fertilizer of fruit trees and vines.

Get your order in early. If your dealer does not carry Devoe sprays and says he has "something just as good," better write us.

Devoe & Raynolds Company

171 W. Randolph Street, Chicago
New York—Kansas City—Denver



HIGH GRADE, TOOL STEEL, FORGED, FINELY TEMPERED, with lock nut; 30 inches long. Delivered in United States and Canada for. **\$2.00**

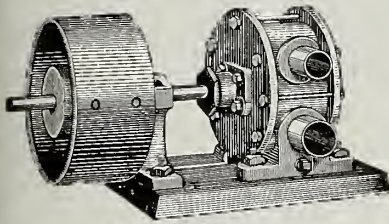
HAND PRUNERS, J. A. HENCKELS, IMPORTED, 9-inch, riveted plate, long brass spring, ratchet nut. Delivered in United States and Canada for **\$2.00**

THE HOOD RIVER HAND PRUNER, 9-inch, made especially for our requirements, the best shear produced. Delivered in United States and Canada for **\$1.75**

We sell every kind of up-to-date pruning tools.
Write us about your wants.

E. A. FRANZ CO., Hood River, Oregon

The pump you have always wanted but could never before obtain



Patented June 2, 1903
Improvements Pending

Every Pump Guaranteed
Absolutely

The Ideal System of Irrigation

Saves power and money; utilizes the power; converts power into results; high heads without staging; deep wells, pits and mines. Mechanical perfection; simple; easily installed; free from wear; faithful and dependable machine. Made in many sizes, 25 gallons per minute to 10,000 gallons per minute. Address

Ideal Irrigation Rotary Pump Company

HENRY BUILDING

SEATTLE, WASHINGTON

The Washington State Fair at North Yakima

By H. B. Averill, Acting Secretary Washington State Fair Commission

AFTER many years of discouragingly slow growth the Washington State Fair is at last beginning to loom up as a big institution somewhat in keeping with its dignity as a state institution. Its friends, though appreciative of obstacles still to overcome, are optimistic; its enemies—and every state institution has its enemies—are pessimistic. Considering the fact that this state fair has grown up in a comparatively small town and in a state geographically divided into three or four distinct districts whose interests sometimes clash, and the further fact that each session of the Legislature for years has wit-

nessed a protracted struggle for a small appropriation, Washington's fair has done well. The recent report of the state examiners, who found the financial affairs of the fair perfectly satisfactory, showed the total value of the grounds, buildings and personal property to be \$183,272.50. There are 120 acres practically adjoining the City of North Yakima, directly on the street car line. The grounds are prettily laid out with a mile race course, boulevards, streets, lawns and flower gardens, and contains a beautiful grove, which during the summer months is the scene of many enjoyable social affairs. More than \$1,000 worth of

hay is cut every year from these grounds. In years to come the generous size of these grounds will be more appreciated than it is now.

Buy and Try

White River Flour

Makes
Whiter, Lighter
Bread



Grandview, Washington, exhibit at the Washington State Fair, held at North Yakima September 25 to 30, 1911

THINGS WE ARE AGENTS FOR

Knox Hats

Alfred Benjamin & Co.'s Clothing

Dr. Jaeger Underwear

Dr. Deimel Linen Mesh Underwear

Dent's and Fownes' Gloves

Buffum & Pendleton

311 Morrison Street
Portland, Oregon

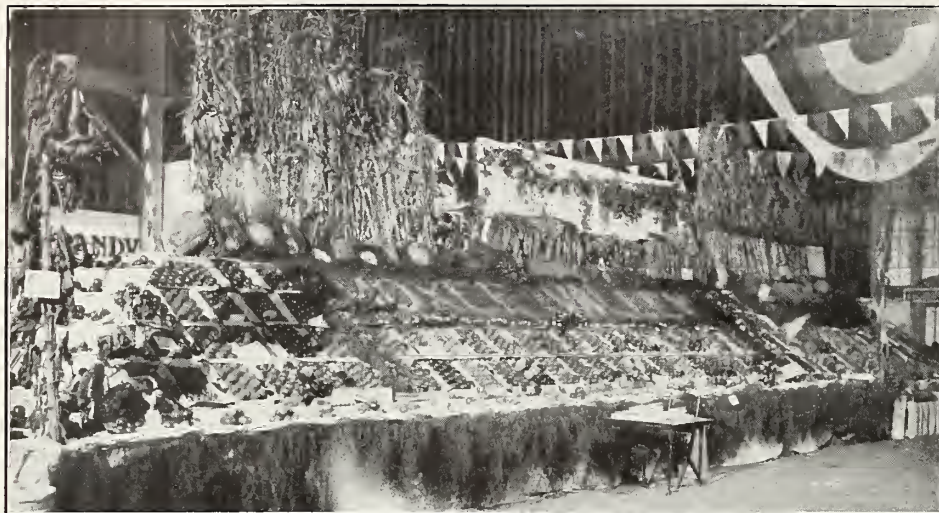
Authentic Information

REGARDING HOOD RIVER VALLEY

We will be glad to furnish you with full details of our valley and give you a list of what we have for sale in improved and unimproved land. At the present time we have some desirable buys. Will send you literature on request.

Reference: Any bank or business house in Hood River.

Guy Y. Edwards & Co., Agents
HOOD RIVER, OREGON



Moxee Valley (Washington) exhibit, winning second prize for the finest district fruit display at the Washington State Fair, North Yakima, September 25 to 30, 1911

Under John W. Pae's administration as secretary, which terminated October 6 last, the volume of business transacted by the fair increased more than a third over the preceding two years. In round numbers \$190,000 has been received and disbursed since February 3, 1910, disbursements slightly exceeding receipts from all sources. In explanation of this it may be said that in this period \$18,000 has been spent in making permanent improvements, such as the erection of buildings, remodeling old ones, installing a water system and making roadways. This item alone is more than has been annually allowed by the state. Last

year (1910) \$9,400 was distributed and this year (1911) about the same amount. This money has gone almost entirely into the hands of Washington and Oregon competitors, stimulating the breeding of thoroughbred stock, more scientific horticulture and agriculture and encouraging the domestic arts. The amusement features have not been overlooked, but have come in for a generous share of the expenditures, it being necessary to entertain people at state fairs as well as to educate them and to stimulate industry.

As a fruit and stock show this fair has always been pre-eminent in the Northwest. Its location in the City of

25,000 1-Year-Old Apple Trees for Sale

Some A1 Jonathans, Rome Beauties and other good varieties. They run from 4 to 5 feet high and from $\frac{3}{8}$ to $\frac{1}{2}$ inch caliper. Now is your chance to secure some good stock from a nurseryman of 20 years' experience.

Address **ALBERT MATHIS, PAYETTE, IDAHO**

Hood River Valley Nursery Company

Route No. 3, Box 227

HOOD RIVER, OREGON

Phone 325X

Will have for spring delivery a choice lot of one-year-old budded apple trees on three-year-old roots, the very best yearlings possible to grow. Standard varieties from best selected Hood River bearing trees—Spitzenbergs, Yellow Newtowns, Ortleys, Arkansas Blacks, Gravensteins, Baldwins and Jonathans. All trees guaranteed first-class and true to name. Start your orchards right with budded trees from our nursery, four miles southwest from Hood River Station.

WILLIAM ENSCHEDE, Nurseryman

H. S. BUTTERFIELD, President

STANDARD LIME-SULPHUR HYDROMETER, PRICE \$1.00 BY MAIL

Complete with Test Jar and Instructions.

Apply for Agency



CARBONDALE INSTRUMENT CO., CARBONDALE, PA.

Non-Irrigated, Whole-Root Trees

We have them. Write us your wants. We pay freight and guarantee arrival in good condition. A Few Reliable Salesmen Wanted.

PACIFIC NURSERY COMPANY, 1205 Yeon Bldg., Portland, Oregon

FRUIT GROWERS, YOUR ATTENTION

Royal Ann, Bing and Lambert cherry trees; Spitzenberg and Newtown apple trees; Bartlett, Anjou and Comice pears, and other varieties of fruit trees.

A. HOLADAY

MONTE VISTA NURSERY

SCAPPOOSE, OREGON

A NOTABLE SPRAYING BOOK

One of the best spraying books issued in recent years is just now off the press and being distributed by the Field Force Pump Company of Elmira, New York. The book will unquestionably be pronounced an authority on all spraying matters and will be welcomed by everyone who is seeking reliable information along spraying lines.

The book serves as a catalogue, with fine illustrations and detailed descriptions of the long and excellent line of spraying machines and devices which this company manufactures. But it is also much more than a catalogue. The spraying formulas, calendar and directions will be of interest to every fruit grower. The opening article, on the relative value of liquid and dust spraying, is upon a live subject and rings with high authority. What spray mixtures to use, how to prepare them, when and how often to spray, are subjects so satisfactorily treated as to make the book extremely valuable.

An important consideration is the authentic character of the articles. The formulas and directions are compiled from the latest reports of the work done at the various government experiment stations, the highest authority we have on horticultural and spraying matters.

A copy of this excellent book may be had free simply by addressing the Field Force Pump Company at Elmira, New York. ***

Pedigree Trees

Facsimile of affidavit on file at Ballygreen. Similar one on file for each variety Pedigreed.

BALLYGREEN SYSTEM PEDIGREE TREES	
THIS IS TO CERTIFY that on this 10th day of February	
A. D. 1911	out from bearing trees of
Optimizing	variously healthy colors
Fruit District	Hood River, Ore.
Orchard Owned by	Chapman
Age of Tree	Two to Three
Coloring of Fruit	Good
Shape of Fruit	Good
Quality of Fruit	Good
Remarks	
IN WITNESS WHEREOF I have hereunto set my hand and seal this 20th day of April, A. D. 1911.	
CHAPMAN (SEAL)	
WITNESS: M. H. HARRIS	
Subscribed and sworn to before me this 2nd day of April, A. D. 1911.	
J. HARRIS	
Notary Public for the State of Oregon	

IT is a decided advantage to planters to secure Nursery Stock propagated from the finest prize winning trees in the West. Quality and Pedigree certified under affidavit. The Ballygreen System makes this possible.

OUR trees have the well-balanced roots and tops that skilled horticulturists aim to secure. Such trees produce fruit of quality. We grow exclusively selected Trees of Certified Pedigree.

Descriptive Pedigree Book and Price List sent on request. Write us.

Ballygreen Nurseries
Hanford, Wash.

Reliable Agents Wanted

Milwaukie Nurseries

Write for prices on Yellow Newtown and Spitzenberg apple trees. My trees are True to Name and first class, grown on high ridge land without irrigation, and give satisfaction.

Address

N. B. Harvey

Proprietor Milwaukie Nurseries
MILWAUKIE, OREGON

Get Catalog and Price List

420 acres devoted to nursery purposes

THE

WOODBURN NURSERIES

Established 1863 by J. H. Settlemier

GROWER OF CHOICE

Nursery Stock

F. W. SETTLEMIER, Woodburn, Ore.

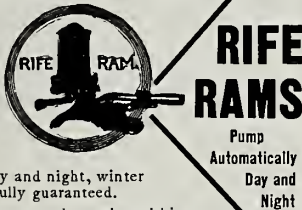
Sup V i : r Fruit

without expense for pumping, by the simplest, most efficient water-power method — automatic Rife Rams.

Costs little to install — nothing to operate. Raises water 30 feet for every foot of fall. Land lying above canal or stream supplied with water. Pumps automatically day and night, winter and summer. Fully guaranteed.

If there is a stream, pond or spring within a mile write for plans, book and trial offer, FREE

RIFE ENGINE CO., 2525 Trinity Building, NEW YORK



RIFE RAMS

Pump
Automatically
Day and
Night

S. E. Bartmess

UNDERTAKER AND
LICENSED EMBALMER

For Oregon and Washington

Furniture, Rugs, Carpets
and Building Material

Hood River, Oregon

Car Lots Our Specialty

John B. Cancelmo

127 DOCK STREET
PHILADELPHIA

FANCY BOX APPLES

North Yakima, in the center of the largest fruit growing district in this part of the United States, logically leads to a truly magnificent horticultural display each year in a building devoted exclusively to that purpose and erected at a cost of \$14,000. Here may be seen every variety of fruit grown in this latitude. Even the Kennewick peanut is represented, and occasionally Yakima tobacco. Thousands of boxes of luscious apples lend color and beauty to the scene, the sweet fragrance of grapes fills the air, and the visitor emerges from the building glowing with pride, if he be a Washingtonian or even a resident of the Northwest. This year Selah Valley won the prize money and gold cup offered for the finest district display of fruit. The contest was close, both Moxee and Kennewick crowding hard for first honors. Kennewick's grape booth was unique and easily captured first award for best exhibit of grapes. The most artistic display of fruit and general farm products this year was that of Toppenish and the Yakima Indian Reservation, universally credited with being the finest exhibit on the state fair grounds. Several hundred dollars were spent upon it by the enterprising citizens of that district, under the direction of H. A. Bodie, chairman of the exhibition committee.

A more complete show of blooded stock, particularly dairy cattle, was not held on the Pacific Coast this year. Competent judges pronounced the six Holstein herds competing for honors and cash prizes the finest class exhibition ever seen on the Coast. The winning herd, that of A. C. Mills of Ferry, Washington, was taken east to the International Dairy Cattle Exhibition held at Chicago, and there won high honors. The high standard attained by the Washington State Fair's stock exhibitions gives ample assurance of the success of this department at future fairs. Seven hundred pens were filled by poultry exhibitors and \$950 in premiums distributed.

The fair is growing faster than the support given it in a financial way and has really become an institution deserving of state wide support. It is useless to look to one valley, even as prosperous and wealthy a one as that of Yakima, to support a state fair unaided. The Washington State Fair officially represents Washington agriculture, horticulture and industries, and as such is deserving of more substantial support while it is erecting buildings and getting on its feet. The present fair commission, headed by Dr. J. S. Kloeber, is a thoroughly representative one, with individual broad views and sufficient public spirit and energy to build a successful state fair if fairly supported. Charles Heath, cashier of the Yakima Valley Bank at North Yakima, is treasurer; the other members are: State Senator J. C. Hubbell of Ellensburg, W. A. Ritz of Walla Walla and T. N. Henry of Prosser.

Great Crop Of STRAWBERRIES And HOW to GROW THEM

is a complete treatise on strawberry culture written by America's greatest strawberry expert. Indorsed by agricultural colleges and strawberry growers of highest authority. It tells all about our big branch strawberry plant farms in

IDAHO AND OREGON

Where the pure Kellogg thoroughbreds are grown to perfection for our Pacific Coast and Inter-Mountain State customers. Government reports show that strawberries yield more dollars per acre and give quicker returns than any other crop. Get our book and learn how.

IT'S FREE!

R. M. KELLOGG CO.
Box 355 Three Rivers, Mich.



FREE BOOK

Electric Wiring & Supply Co.

President ALVA L. DAY
V.-President & Manager J. M. GEIGER
Secretary & Treasurer W. R. SHUMAN

Home Phone 3

HOOD RIVER, OREGON

OPEN FOR SETTLEMENT

Orchard Lands, Irrigated
No Cash Payment Required

We need settlers—not their money. Irrigated orchard tracts in the famous Rogue River Valley, Southern Oregon; prairie land, ready for the plow; no timber, no rocks. Water now on the ground. Unequaled for productiveness and climate. This proposition, and financial standing of company, indorsed by national banks, leading business men and financial agencies. Only irrigation company in the Northwest permitting settlers to make the land pay for itself. We also sell improved orchard tracts on small monthly, semi-annual and annual payments to those who are unable to make residence at the present time. Send for illustrated descriptive matter. ROGUELANDS INCORPORATED, 1018 Chamber of Commerce Building, Portland, Oregon, or Medford, Oregon.

VEHICLES AND AGRICULTURAL IMPLEMENTS

THE BEST OF
ORCHARD AND GARDEN TOOLS
A SPECIALTY

GILBERT IMPLEMENT CO.
HOOD RIVER, OREGON

STORAGE

Ship your Furniture to us
to be stored
until you are located

Transfer & Livery Co.
Hood River, Oregon

IF YOU WANT THE BEST ORCHARD LAND IN OREGON

I have what you want, whether it is five to forty acres for a HOME ORCHARD, or 400 acres for subdivision.

I have land in the Hood River Valley or in the Mount Hood Valley adjoining Dufur.

If you do not want to take possession at once, your land will be planted and cared for, in the best manner, for you for from three to five years, when it will come into bearing.

For further particulars address,
P. O. BOX 86, HOOD RIVER, OREGON

The Lane County Apple Show

By J. O. Holt, Secretary Eugene Fruit Growers' Association

THE largest value of the Lane County Apple Show, held in Eugene the first week in November last, lies in the improvement shown in the selection, grading and packing of the fruit rather than as indicating the importance and extent of the apple industry in Lane County. The improvement over previous shows in this respect was remarkable, and its importance from a practical point lies in the fact that most of the fruit was selected and packed by the growers themselves. The districts represented include Junction City, Coburg, Thurston, Springfield and Creswell, as well as the immediate vicinity of Eugene. Professor Krous of the Agricultural College had charge of the judging.

Like all other sections of the Northwest, the Lane County apple crop was short this season, and in consequence the number of boxes fell somewhat short of previous shows. After the show closed a part of the exhibit was taken to Albany the following week, and was awarded sweepstakes prize against the entire Willamette Valley. This is the third consecutive year that Lane County apples have taken this prize. An excellent showing of grapes was also made, including Concord,

Worden, Delaware and Niagara. But perhaps the most important special exhibit, from the immense possibilities indicated, was the collection of walnuts, filberts, chestnuts and almonds, all of which were of excellent quality. The output of the nut orchards of Lane County already amounts to several tons annually.

The Jonathan will do very well as a filler, but you have to prune it hard. Almost any early bearing tree can be used for a filler, if you prune it hard. Another good one is the Wealthy. The Northwest Greening is a very fine apple for rather early purposes. It does not keep late in the season. In this region it will keep till January. It is a very fine apple, and takes the place of the common Rhode Island Greening in many places.

We Do Not Believe

there is any nursery, East or West, that enjoys a better reputation than ours for furnishing good, clean, healthy stock. We are willing to match our stock and service against any nursery in the world. For several years we have been supplying most of the trees planted in the famous Wenatchee Valley, and the tens of thousands of growing trees, furnished by us, speak louder than words.

We have a large and complete line of fruit and shade trees, ornamental shrubs, vines, roses, etc.

Our Customers Get What They Order

COLUMBIA & OKANOGAN NURSERY CO.

Wholesale and Retail

Wenatchee, Washington

Bartlett and Anjou

A splendid stock of one-year pears, apples and peaches to offer, both wholesale and retail.

Orchardists' Supply Co.

301 Newhouse Building SALT LAKE, UTAH

Northern Grown Trees

Northern grown, non-irrigated trees on hardy roots are long lived. They come into bearing early and bear heavily. We can supply standard varieties A No. 1 apple trees, one year old, at attractive prices. We grow ornamental stock, shade trees, small fruits, forest seedlings, etc., in quantity. Send for catalog. First prize Middle West "Special," Fourth National Apple Show, Spokane.

The Jewell Nursery Company

LAKE CITY, MINNESOTA

Established 1868 1,500 Acres

ARE YOUR CROP YIELDS SATISFACTORY?

They are certainly not what they would be if you used Clark's Double Action "Cutaway" Harrow. It requires thorough cultivation to make the soil fertility available for your crops. "Thorough Cultivation," and "Clark's Double Action 'Cutaway' Harrow" are synonymous. The entire machine is made of steel and iron, except the pole, which is jointed so that there is no weight upon the horses' necks, and can be removed in one minute and used as a tongueless, as shown in cut. This is a big feature in moving from field to field, insuring safety to horses. The disks are of cutlery steel, shaped and forged in our own shops, where the only genuine "Cutaway" disks are made. The Double "Cutaway" does twice as much as an ordinary disk harrow and better at the same cost. The inflexible frame holds the gangs rigidly in their places, and compels them to cut high, hard ridges, carrying the soil into the hollows and leaving the ground level. With the flexible or tandem harrows the gangs conform to the surface and do not cut and level the hard, irregular places. Clark's stir every inch, leaving a finely pulverized seed bed. By setting the inner gangs straight on sharp turns, the Disk turns easily, leaving the ground even. No interlocking of gangs.

Modern farmers disk before they plow their land. It puts fine soil in the bottom of the furrow, where otherwise would lie loose clods that make a strata through which the sub-moisture can not rise. For this no other disk equals Clark's.

What Prof. Bailey Says:

"The Double Action 'Cutaway' Harrow has been satisfactory. I use it almost continuously on our hard clay land with good results."

If your dealer can't supply the genuine "Cutaway," write us. Satisfaction guaranteed. Twenty-five years' experience back of every sale. Prompt shipments. Get our booklet "Intensive Cultivation." It's free. We make a special tool for every crop.

CUTAWAY HARROW CO.

940 Main St., Higganum, Conn.



MITCHELL, LEWIS & STAVAR CO., Western Agents, Portland, Oregon

TREES APPLE, CHERRY TREES PEAR, PEACH

MILTON NURSERY COMPANY

A. MILLER & SONS, Inc.

You cannot afford to take a chance in buying trees to plant for future profit. It requires knowledge, experience and equipment to grow reliable nursery stock.

OUR 33 YEARS' EXPERIENCE in growing first-class trees, true to name, for commercial orchards, insures our customers against any risk as to quality and genuineness of stock.

Orders are now being booked for fall delivery 1911. Catalog and price list free for the asking.

Address all communications to

MILTON NURSERY COMPANY, Milton, Oregon

The Ninth Annual Flathead County Fair

By S. G. Robinson, Agriculturist, Flathead County High School

THE Ninth Annual Flathead County Fair made its formal opening this year at Kalispell, Montana, on the morning of October 11 and closed its last program on October 13. As usual, the fair grounds teemed with visitors from all parts of the county, and all sorts of amusement features were provided by the management to entertain and amuse the out-of-town as well the local contingent. Formal programs were followed out each afternoon, including running races, apple packing contests, cowboy potato races, football games, broncho riding and many other forms of entertainment. The attendance was the second largest in the history of the county association. The Flathead County Fair is the last one to be held in the State of Montana, and is the only one to follow the State Fair, all of the other fairs being held at an earlier date. In the higher altitudes on the east of the range the Indian summer weather of fall is sometimes broken by early storms, and the fairs that are held early in the season do not get the best weather. In the lower altitudes of the Flathead Valley, however, the warm days of autumn linger well into October, and by holding the fair at this time of the year the products of the orchard and the farm are secured at their very best. The county fair is now recognized as a most valuable institution, and as such deserves more attention in the future than it has received in the past. As an index of public spirit the county fair is an

unfailing barometer of the conditions in the country; it even stands for more than the material progress of the community, for it shows the general moral and educational worth of the people just as truly as it does the biggest pumpkin, the finest horse and the largest apple. As Flathead County has more varied and finer products than any other section of the state, the importance of its county fair is hardly to be over emphasized.

As was expected, the poultry show fully outdid last year's display, and the exhibitions were large and of the first order. There was a specially fine collection of Toulouse Geese and Muscovy, Indian Runner and Pekin ducks. All of the fancy and standard grades of chickens were very well represented. In the Mediterranean class were shown splendid specimens of Anconas, White and Brown Leghorns and Buttercups. In the English class were exhibited White, Buff and Black Orpingtons. In the American class were displayed many Rhode Island Reds, Barred Plymouth Rocks, White Plymouth Rocks and Wyandottes. In the Asiatic class were seen Langshans and Light Brahmas. The poultry exhibit also included Bantams, Rhode Island Reds of the "Nugget Strain" in rose and single comb, White Pekin ducks, pigeons, Guinea pigs and squirrels.

The new barn built this year for the animal husbandry exhibition of the fair was filled with splendid specimens of horses, cattle and swine, sent

in from all parts of the county. Among the horses shown were Percherons, Belgians, Clydes, Standard and Grade drafts, and Standard Thoroughbreds, Shetlands, Hambletonians, Morgans and other drivers. The display of the cattle, while not large was exceedingly good, there being Polled Durhams, Jerseys, Holsteins and Grade dairy cattle. In the swine department of the animal husbandry exhibit were seen excellent animals of the Dorset Red and Poland China types.

The vegetable exhibit was the best that has ever been produced in the history of Flathead County, and it certainly spoke eloquently of the fertility of Flathead soil. Everything in the general line of olericulture was shown, including beets, pumpkins, cabbages, parsnips, carrots, salsify, cow pumpkins, squash of all kinds, sunflower, tomatoes, cauliflower, field

Virginia Apple Orchards

At \$15.00 per Acre and Up

Remarkable opportunities are offered you to locate in the famous Piedmont section. Values like these unheard of. Now is the time to locate in the fifth apple growing state in this country. Bountiful results from all varieties—Baldwins, Albemarle Pippins, Grimes Golden, York Imperials, Vinesaps, etc. Peaches, pears, plums, etc., grown with greatest success. Ideal climate—no extremes of heat or cold. Good roads. Markets nearby, where highest prices are obtained. Freight rates low. Write at once for our booklet, "Virginia Farm Lands." Gives detailed information. Address Department 14

CHAMBER OF COMMERCE, Lynchburg, Virginia

Don't Buy Trees

Till you see us. We are giving the biggest value for the least money, in any nursery stock you can buy. Quality unequaled, at unparalleled low prices. Place your order now for prompt fall shipment.

Benedict Nursery Co.

67 East 76th Street North
PORTLAND, OREGON

HOODRIVER Orchard Units

Guaranteed Dividends and
Profit Sharing Bonds

Central Orchard Co.

Hood River, Oregon

W. F. LARAWAY

DOCTOR OF OPHTHALMOLOGY

EYES TESTED  LENSES GROUND

Over 30 Years' Experience

Telescopes, Field Glasses
Magnifiers to examine scale

Hood River Oregon and Glenwood Iowa

D. CROSSLEY & SONS

ESTABLISHED 1878

APPLES FOR EXPORT

California, Oregon, Washington, Idaho and Florida fruits. Apples handled in all European markets. Checks mailed from our New York office same day apples are sold on the other side. We are not agents; we **sell apples**. We make a specialty of handling **APPLES, PEARS AND PRUNES** on the New York and foreign markets. Correspondence solicited.

200 to 204 FRANKLIN STREET, NEW YORK

NEW YORK

LIVERPOOL

LONDON

GLASGOW

corn and pop corn. Some of the specimens were extremely large, and these were singled out from the balance of the exhibits and placed where they could be looked at and commented upon by the large crowds that visited the building all day. Without doubt this section of the exhibit held the crowds longer than any other part of the fair. Everybody took turns in commenting on the extra size of the specimens, and not a few wished that they could take the exhibits home to place in storage for the coming winter. There was no large display by any one individual grower, as has been the case at two or three of the fairs of recent years, but the number of exhibits was larger and the collections were surprisingly uniform in excellence. The displays of potatoes was a great feature, many growers bringing in those which were remarkable for size, while others had boxes of the mainstay of life which were smooth, uni-

form in size and best suited for the table. All of the vegetables were of superior quality, the white turnips drawing special attention. One large turnip weighed twenty-two pounds and the combined weight of six specimens amounted to 120 pounds. I might remark that some of the finest vegetables exhibited were grown on claim land, on sod broken last spring, and were planted between the first and the tenth of last June.

An innovation along agricultural lines was the fine exhibition of grains and grasses which was placed in competition from several districts of the county. Here were seen wheat, oats, barley, peas, corn, clover, timothy, alfalfa, brome grass and red top. The Dayton, Montana, display was the most attractive exhibit in this line, including vegetables as well as grasses, showing fully the wonderful resources of that valley. This display was gathered under the personal supervision of S. B. Allen, a homesteader near Dayton, and every article, pareel, root, stem and apple was gathered by Mr. Allen during the past few weeks between breathing spells while holding down his claim. The Dayton exhibit of grasses, grains and vegetables was contributed by all of the old-timers in that part of the reservation country as well as by the new settlers who have moved into that section since the Flathead Indian Reservation has been opened for settlement. In this display was also shown some fine ore taken from the Junbo mine, obtained from the latest strike in that property. This part of the fair attracted a great deal of attention. Along with this came the display of flowers by the Kalispell gardens, showing all of the flowers that ever grew out of doors in Flathead County. All shapes, colors and variations made a very pleasant exhibition.

Another display that was exceedingly interesting to the large crowds was the one put in by the Montana Larch and Pine Manufacturers' Association. Here were seen larch and pine in all the stages of manufacturing, plain lumber, finished lumber and wood that looked as if it might have been taken from the panel of some fine piano, so fine was its polish and grain. Many people who have lived

here for years were surprised at the finish that could be put on lumber milled from the common old tamarack trees that they have been using for fuel all this time. The display covered manufactured articles in all stages. Many pieces were finished in various colors and shades, and several extraordinary samples were shown for the purpose of giving an idea of what might be expected of the milled product in the near future.

The horticultural exhibition of the fair was, of course, the most interest-

Make Big Money Drilling Wells



IMPROVED STANDARD DRILLING MACHINE
One Man Can Handle
Has a record of drilling 130 feet and driving casing in one day. Only three levers. Extra large rope sheaves. Positively will drill every kind of formation. Avoid delays from sending back East. Buy from us. We build these up-to-date machines. Will tell you all in catalog. Write for it. REIERSON MACHINERY CO., MANFRS., PORTLAND, OREGON

Protect Your Trees

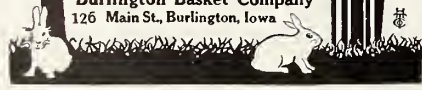
DON'T take chances with your young trees. One rabbit will kill many in a single night. Mice and cut worms will damage and destroy them if you don't protect them. Get dollars' worth of protection at a fraction of a cent cost by using

Hawkeye Tree Protectors

Absolute protection against gnawers and borers. Prevent trees from becoming skinned and bruised by cultivator or lawn mower. Made of elm veneer, chemically treated. Easily put on and will last until tree is beyond needing protection. Don't wait until some of your trees are killed—order Hawkeye Protectors now. Regular size 10 inches wide, 20 inches high. Price in lots of 100—1 cent apiece, in lots of 1000—1/4 cent apiece. Special sizes made to order. Write for circular and samples.

We make Fruit Baskets—get our prices.

Burlington Basket Company
126 Main St., Burlington, Iowa



The Law Says SPRAY NOW For San Jose Scale

All infected fruit trees one year old and over with lime and sulphur solution."

Sec. 47, Revised Code 1909.

The State Commissioner reports "Ninety per cent of all fruit is infected and

THOUSANDS OF BOXES CONDEMNED

Annually because of this disease.

LILLY'S LIME and SULPHUR

Is a scientifically mixed solution endorsed by the State Agricultural College because of its concentrated form. In wet weather use a 1-8 solution; in dry weather 1-11 solution, in December and again in February. Send for Lilly's Spray Book and prices.

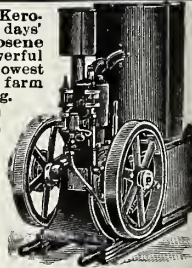
Chas. H. Lilly Company, Seattle, Wash.

Use KEROSENE Engine FREE!

Amazing "DETROIT" Kerosene Engine shipped on 15 days' FREE Trial, proves kerosene cheapest, safest, most powerful fuel. If satisfied, pay lowest price ever given on reliable farm engine; if not, pay nothing.

Gasoline Going Up!

Automobile owners are burning up so much gasoline that the world's supply is running short. Gasoline is 9c to 15c higher than coal oil. Still going up. Two pints of coal oil do work of three pints gasoline. No waste, no evaporation, no explosion from coal oil.



Amazing "DETROIT"

The "DETROIT" is the only engine that handles coal oil successfully; uses alcohol, gasoline and benzine, too. Starts without cranking. Basic patent—only three moving parts—no cams—no sprockets—no gears—no valves—the utmost in simplicity, power and strength. Mounted on skids. All sizes. 2 to 20 h. p., in stock ready to ship. Complete engine tested just before crating. Comes all ready to run. Pumps, saws, threshes, churns, separates milk, grinds feed, shells corn, runs home electric-lighting plant. Prices (stripped), \$29.50 up. Sent any place on 15 days' Free Trial. Don't buy an engine till you investigate amazing, money-saving, power-saving "DETROIT". Thousands in use. Costs only postal to find out. If you are first in your neighborhood to write, we will allow you Special Extra-Low Introductory price. Write! Detroit Engine Works, 507 Bellevue Ave., Detroit, Mich.

Arcadia Irrigated Orchards

The Largest Irrigated Orchard Project in the Northwest

Arcadia is located twenty-two miles from Spokane. Our soil is rich and deep, entirely free from gravel, rock and alkali. Gravity irrigation, excellent transportation, ideal climate, no dust or sand storms.

OUR PLAN: We plant, cultivate, irrigate, spray, prune and care for the orchard for four years. Water free. Real estate taxes paid for five years. Over 4,000 acres is now planted to winter apples. You may remain at your present occupation while your orchard is brought to bearing, or, if desired, move onto the land at once.

TERMS: \$125.00 first payment secures five acres; \$250.00 first payment secures ten acres; balance monthly. Eight years in which to pay for your orchard. Write for literature.

ARCADIA ORCHARDS COMPANY, Spokane, Washington

Butte Potato & Produce Co.

BUTTE, MONTANA

Jobbers of all Farm and Orchard Products

We have a large outlet for fruits and vegetables. We want to hear from shippers.

A. J. KNievel
President and Manager

Sixteen years' experience on the Butte market.

YAKIMA COUNTY HORTICULTURAL UNION

North Yakima, Washington

C. R. Paddock, Manager

Apples, Pears, Peaches, Cherries
Plums, Prunes, Apricots, Grapes
and Cantaloupes

Mixed carloads start about
July 20. Straight carloads in
season. Our fruit is the very
best grade; pack guaranteed

We use Revised Economy Code

The PARIS FAIR

Hood River's largest and best store

Retailers of

EVERYTHING TO WEAR

Agents for

HAMILTON & BROWN AND
THE BROWN SHOES

HART, SCHAFFNER & MARX
CLOTHES

MANHATTAN SHIRTS

JOHN B. STETSON HATS

NEMO CORSETS

Strictly Cash—One Price to All

ing of all the exhibits, and it is safe to assume that a more wonderful display of fruit was never seen in Kalispell. A brand new building had been erected for the horticultural display, a structure measuring 100x40 feet, substantially built on a concrete foundation, supported in the middle by a line of upright timbers set on concrete bases. The building was very well ventilated and well lighted by means of skylights. One entire side of the building was prepared for the fruit display. Two by fours were fixed on a bevel of about fifty per cent and a cross work of slats was arranged to hold the boxes. The display of fruit covered eighty feet and contained all of the varieties and kinds of fruit grown in Flathead County. Through the center of the building, along each side of the line of supports, were rows of shelves for the plate display. Here were arranged the canned fruits and vegetables, cakes, cookies, bread, candies, jellies, preserves, etc., prepared by the culinary experts of the feminine division of Flathead County.

The largest exhibit of fruits was produced by Senator Fred Whiteside. This display was not placed in competition for prizes, but merely to show what Flathead County was capable of producing in the horticultural line. The exhibit, a mass of McIntosh Reds, surrounded by boxes of McMahon Whites, excited much favorable comment. This display of Senator Whiteside's was an exact reproduction of his exhibition at the State Fair this year, in which he obtained so many blue ribbons. The next largest display was made by the Rollins estate, the exhibit showing many apples, pears, plums and peaches, the various fruits comparing very favorably with the exhibits at the larger shows this year. The Sunset Orchard, representing the eastern shore of Flathead Lake, had a marvelous display of plums, the largest ever grown in Flathead County. Grapes were also well represented. In fact, looking back ten years to the first county fair, the fruit men especially have a story of evolution in fruit in Flathead County. Both size and quality marked the fruit exhibited this year, the apples repre-

Do You Want a Home

in the midst of a delightful environment? A resort city with all modern improvements, mineral springs, scenic attractions, etc. Homeseekers needed to develop small tracts in the vicinity of ASHLAND, in the famed Rogue River Valley of Southern Oregon. For information regarding fruit, gardening, poultry, dairy products and stock-raising, address COMMERCIAL CLUB, Ashland, Oregon.

Advertisers please mention "Better Fruit" in correspondence.

Stanley-Smith Lumber Co.

WHOLESALE AND RETAIL

Lumber

LATH, SHINGLES, WOOD, Etc.

HOOD RIVER, OREGON

Ryan & Newton Company

Wholesale Fruits and Produce

Spokane, Washington

We have modern cold storage facilities essential for the handling of your products

Reliable Market Reports

PROMPT CASH RETURNS

sending both the household orchard and the commercial apples. Many persons passed along the apple exhibit and decided on how many boxes of each kind they wanted for use until next May. The valley resident is priding himself on his expanding knowledge and is surely getting inside of the apple question. The peach was more prominent in the display this year, and along with the pear has been selected as to what is best for the soil and climate of Flathead County. One glance at the plums removed all doubt of their being adapted to our valley. From the Golden Egg through all of the reds and into the deepest of purples, for size, quality and beauty the plums could not be beaten. As I heard one dealer say: "This is a plum country; they will not fail you; there is money in plums."

Flathead orchardists had their note books wide open at the fair, and were taking orders for the delivery of apples and pears by the box and in larger quantities. The orders covered varieties both for the immediate use and for later use in the winter. A fruit man was asked what the doctors would do if all of the people in Flathead County would take to eating apples for the fall and winter after filling up all summer on raspberries, strawberries, plums and the summer apples. "Well," said Mr. B., "the doctors would have to go in for apple raising for a living and incidentally prolong their own lives." The King-Thurman Nursery Company was the only nursery represented at the fair. They exhibited any number of kinds

of fruit trees as well as several varieties of shade and ornamental trees, indicating the growth of the nursery business in Flathead County.

One of the many exhibitions of the fair was the apple packing contest. This affair attracted much attention, for many people had never seen the packing in progress. The marking was on a scale of 100 points, twenty points each on time, line, pack, wrap and crown. Each contestant was to pack three boxes, a time limit of twenty-

five minutes being fixed. No allowance was made for any reduction of time from the twenty-five minutes, but a reduction was made from the time percentage for all over the twenty-five minutes. There were six contestants and the scores were: 96.5:2, 95.5:3, 92.0:4, 85.0:5, 84.0:6 and 83.0. I heard this question asked: "How do you suppose it would impress a stranger if he could be blindfolded until he reached the hills above the fair grounds, where he might have a panoramic view of the valley in its extent, its October skies and atmosphere? Would he think he had landed in paradise?" At least he might imagine he had stumbled into an improvised plan of the Garden of Eden when he saw the apples that Mother Eve had picked for him.

Almost the whole world knows of Hood River as a place that produces the best fruits, and all of Hood River Valley should know, and could know, that there is one place in Hood River, under the firm name of R. B. Bragg & Co., where the people can depend on getting most reliable dry goods, clothing, shoes and groceries at the most reasonable prices that are possible. Try it.

PORTLAND WHOLESALE NURSERY COMPANY

Rooms 1 and 2 Lambert-Sargeant Building
Corner East Alder Street and Grand Avenue

PORTLAND, OREGON

J. F. LITTOOY

CONSULTING HORTICULTURIST

Land, irrigation and orchard schemes examined for owners, buyers, bonding companies or advertising agencies—Orchard and land values estimated—Orchard soils examined—Directs orchard development—Land damage claims estimated—All business confidential.

MOUNTAIN HOME, IDAHO

Planet Jr No. 41



This **Orchard and Universal Cultivator** is made by a man who tilled ground himself and knows the actual needs of the up-to-date orchardist.

It saves time and labor in orchard, vineyard, and hopyard and has fruit tree shield and side hitch for low trees. The strong, light frame, low wheels, and tongue are all of steel. Convertible into disc harrow. Carries teeth, sweeps, furrowers, plows, etc. Works deep or shallow and cuts from 4 feet to 6½ feet wide. Wonderfully efficient tool for all broad cultivation. **The new 1912 special**

weeder attachment is the most perfect weeder ever invented.

FREE! A 64-page illustrated orchard and farm book!

Write today for this invaluable handbook! You'll find it brimful of suggestions to get better crops with less work. 55 orchard, farm, and garden tools described. You can't afford to miss it! **Send postal for it today!**

S L Allen & Co

Box 1106U Philadelphia Pa

We carry stock in San Francisco. Agencies in all Pacific Coast Cities.

SEEDS

For GARDEN, FLOWER AND FIELD. Our 1912 Complete New Seed Annual Now Ready

A reliable reference and Buyers' Guide for Northwestern Growers

Fully illustrates and presents the newest and most desirable varieties for market or home gardens. Specially adapted to Northwestern requirements.

Latest and best equipments for Farmer, Orchardist, Poultryman and Beekeeper

Ask for 1912 Catalog No. 200

Our seed laboratory, approved by U. S. Dept. of Agriculture, is in charge of an expert seed analyst. No effort or expense is spared to safeguard our customers and insure the quality and purity of "Diamond Quality" Seeds.

Two Big Successes for Northwestern Growers

SHADELAND OATS

80 to 100 bushels per acre. Matures in 100 days from Spring planting.



Pride of Multnomah Potatoes

"Diamond Quality" Seed Potatoes are select true type, vigorous stock that will give the maximum yield of shapely, salable potatoes. See catalog for varieties and description.

Our Diamond Trade Mark is a guarantee of Quality, Satisfaction and Full Value, backed by 25 years of success right here in the Pacific Northwest.

WRITE A CARD TODAY for 1912 Seed Annual.

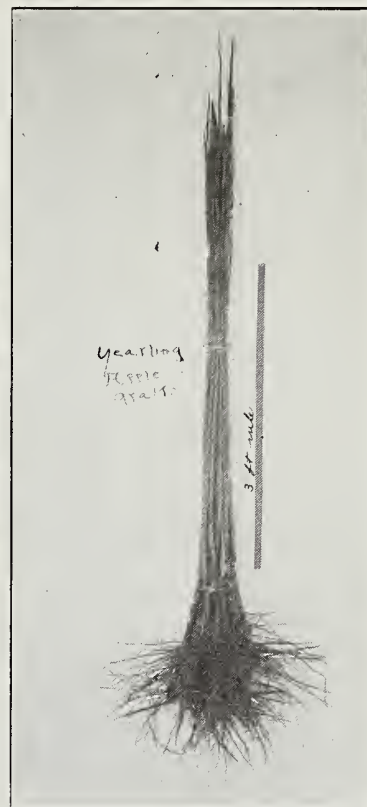
PORTLAND SEED CO. PORTLAND OREGON



There's Money for You in Trees Like These

The above is part of our large block of yearling apple grafts taken October 22, 1911. Notice their uniform height and their heavy caliper. Such trees bring money to the orchardist who plants them. It's our fine location and our efficient and systematic care that enables us to produce such high quality stock.

To the right you see a bunch of our 4-foot and up trees. Look at the splendid root system and the nice, clean, straight body. Our stock is all properly graded and will come up to your highest expectations.



The Finished Product—
Ready for Planting

Yakima Valley Nursery Co. TOPPENISH WASHINGTON

MORE AGENTS WANTED

A Plan to Aid Home Builders

ONE of the most important subjects before the United States today is placing the money-poor people in homes on the land, according to the belief of George E. Barstow, former president of the National Irrigation Congress, which held its nineteenth meeting in Chicago, December 5 to 9. Mr. Barstow says: "My understanding, as discussed in my address before the National Irrigation Congress that convened at Spokane, is that the national government has already passed a law providing for the establishment of a bureau of immigration, the purpose of which is to aid in assisting the immigrants coming to our shores to a right understanding as to where they can best locate upon lands for home-building. This bureau is also to work in conjunction with similar bureaus created by the several states, the better to accomplish that much to be desired end. The importance of this step is realized when we consider that over seventy-five per cent of all the people coming from other countries to our shores have been cultivating the soil in their native lands. But should not the national government, if not the state, go a step further? A large percentage of immigrants land at our great ports of entry with insufficient money to enable them to push out West or to the Southwest. Shall I,

who have always been broadly conservative, be regarded as preaching paternalism, or as socialistic in my purpose, when suggesting that the duty of the national government may be found in providing, under proper safeguard, a fund which may be used to make loans of suitable amounts to enable this thrifty and frugal class of people to locate their homes under the government irrigation plants? Does the duty of the state lie in the care of her indigent and needy? Does her duty lie in the enlightenment of her ignorant? Is her duty found in the proper protection of her people by creating such laws as to protect her citizens in the pursuit of life, liberty and happiness? Then, I inquire, does not the state's duty lie along the lines of making such wholesome provision for that part of her true, though money-poor people, as to obtain homes on the land, thereby creating a truer and nobler citizenship, and whereby we shall require less almshouses and jails and prisons? I believe this to be one of the most important subjects that can occupy the serious attention of the people of the United States at large, and by their state legislatures and the National Congress at Washington. Now, as I have said, we have the immigration bureau, whose duty it is to point out the land for the land-

less man. But we should supply by national legislation the missing link in this vital economic chain by providing for these worthy immigrant farmers the money on reasonable time and at a low rate of interest, payment to be secured upon their purchases of the public domain, of irrigated or dry farming lands, as the farmer may prefer. To this end I advocate that the government provide an 'immigration land fund' to be placed under the care and direction of the Secretary of the Interior. That he shall, in conjunction with the immigration bureau, inaugurate such machinery as is needful to select and determine as to frugal and worthy immigrant farmers. Those farmers who shall choose irrigated lands shall be placed under the care of the reclamation service, and those who desire to locate on dry lands shall be under the care of the Secretary of Agriculture, for arranging their settlement upon the lands so chosen. I expect that some proper arrangement could be made by our government with governments abroad so that those farmers who purpose coming to the states could have their standing vizied by some proper official in the country of their nativity. This 'immigration land fund' should be revolving in character, of reasonable size at the outset and suitably enlarged as time matured and the plan was discovered as eminently wise."—Contributed.

P-W-R ARSENATE OF LEAD P-W-R

SUPPLIED BY DEALERS THROUGHOUT THE UNITED STATES

POWERS-WEIGHTMAN-ROSENGARTEN CO.

MANUFACTURING CHEMISTS

Founded 1818

New York

PHILADELPHIA

Saint Louis

The Apple Business in Watsonville

By C. Gentry Redman, Secretary Commercial League

THE apple season in Watsonville has been backward this year owing to the cool summer which has prevailed throughout the entire apple producing sections of the state. This fact was demonstrated at the California Apple Show held here in October. Several apple growing districts of the state were unable to exhibit this year on account of the fruit being immature owing to the cool summer. The picking season has been particularly advantageous this year. The weather has been all that could be desired and there has been just enough rain to keep down the dust. The orchards are practically all picked and but few loose boxes remain in the orchards to be delivered to the packing houses, one hundred of which are located within the city limits. The crop this year will be about seventy per cent of what it was last season. Last year's output was 4,023 carloads of green apples. In addition to this, there were about 250 carloads of evaporated apples, representing five times the quantity in green apples, or 1,250 carloads. The Newtown Pippin crop will average not over seventy-five per cent of last year, but what it lacks in quantity it will make up in quality. The Bellflower crop will average in the neighborhood of seventy-five per cent of last year's production. Other varieties will average proportionately in quantity in comparison with last year's crop.

Every indication points to a big crop next season. The fruit buds show evidence of a heavy blossom, as the apple crop in this locality is not affected by severe winters which prevail in other latitudes. The buyers of fruit on the trees are taking no chances as to a crop failure. My father was a pioneer orchardist of the Pajaro Valley and had a large bearing orchard in 1868. I have often heard him say that his orchard never failed to bear abundantly, and during all of my years of residence here I have never known of a failure of the apple crop. One of the principal items of expense in caring for orchards here is the thinning. It is estimated that often over fifty per cent of the apples on the trees are removed while the fruit is small. Then the trees have to be propped well to hold their heavily laden branches. An effort is being made by the Commercial League to induce the packers of the valley to agree to government inspection of apples before they are shipped out. A plan has been inaugurated whereby each packer will be assessed one cent per packed box, the amount thus realized to be used to pay the salaries of competent men to inspect the pack and see to it that nothing but first class fruit is shipped out. If this plan does not materialize it is probable that the Lafean bill will become a law at the next session of Congress, which will accomplish the same end.

W. VAN DIEM

Lange Franken Straat 45, 47, 49, 51 and 61
ROTTERDAM, HOLLAND

European Receivers of American
Fruits

Eldest and First-Class House in
This Branch

Cable Address: W. Vandiem
A B C Code used; 5th Edition

Our Specialties are
**APPLES, PEARS AND NAVAL
ORANGES**

VIRGINIA APPLE ORCHARDS
Pay Big Profits

\$50. Cash and \$10.00 Per Month Buys a 10-acre APPLE ORCHARD tract in "The Beautiful Shenandoah Valley of Virginia." Other farm and fruit lands \$15.00 per acre and up. Best climate, water, neighbors, churches and markets. Send for "Southern Homeseeker," maps, rates, etc.

Address F. H. LaBaume, Agr'l Agt.,
Norfolk & Western Ry., Box 4026, Roanoke, Va.

FRUIT Western
Soft Pine.
Light, strong
and durable.

"Better Fruit"
subscribers
demand the
"Better Box."

BOXES

CAN MAKE TWO CARLOADS DAILY

Washington Mill Co.

Wholesale Manufacturers

Spokane, Washington

Large Tracts for Subdivision

Prices Range \$15 to \$300 per Acre

Tracts Range 60 to 6,000 Acres

Subirrigated, Diversified Fruit
Vegetable and General Farm Land

THE DALLES, the coming INVESTORS and PRODUCERS' MECCA

LET US TELL YOU WHY

Washington, Oregon Investment Co.

THE DALLES, OREGON

THE GATEWAY TO EASTERN AND CENTRAL OREGON

We Grow the BEST

Accessibility to the WORLD'S MARKETS

Cheap Transportation

SIMONS, SHUTTLEWORTH & CO., Liverpool and Manchester

SIMONS, JACOBS & CO., Glasgow

GARCIA, JACOBS & CO., London

J. H. LUTTEN & SON, Hamburg

OMER DECUGIS ET FILS, Paris

European Receivers of American Fruits

FOR MARKET INFORMATION ADDRESS:

Simons, Shuttleworth & French Co.
204 Franklin Street, New YorkWalter Webling
46 Clinton Street, BostonJohn Brown
Brighton, OntarioIra B. Solomon
Canning, Nova ScotiaC. W. King
Montreal, QuebecD. L. Dick
Portland, Maine

OUR SPECIALTIES ARE APPLES AND PEARS

Heavy Shipments from Bitter Root Valley

FROM reliable statistics furnished the Missoula Chamber of Commerce there was shipped from the Bitter Root Valley during September 135 carloads of fruit, mostly apples, and 7,914 cases. During October 203 carloads and 10,111 cases. Figuring 600 boxes to a car, this would make the "less than carload" shipments' total equal to thirty cars, or a grand total of 368 carloads in two months. As the November shipments were heavy, too, it is reasonable to expect that at least 450 cars will be shipped by the first of December. Most of these apples and fruit went to points east of Montana, which demonstrates more

clearly than ever that the McIntosh and other favorite varieties are becoming more firmly entrenched in the Eastern markets. Hamilton and the stations adjacent thereto shipped most of this, their consignments amounting to 245 cars and 4,375 cases for the two months. Victor consigned 30 straight cars and Stevensville half that number, in addition to miscellaneous shipments. Other shipping points made up the totals as stated. Figured at the low average of \$700 per car this would mean in the neighborhood of \$260,000 paid into the valley for apples and fruit alone in two short months.—A. J. Brutinstein, Missoula, Montana.

Why Bother with Irrigation?

ASK

PHOENIX LUMBER CO.
SPOKANE, WASH.

ABOUT

Cut Over Lands

YOU CAN BUY CHEAP

We are now selling tracts of 5 acres or more in our final and greatest planting at Dufur, Wasco County, Oregon.

5,000 Acres All in Apples

Over 3,000 acres of it has gone, mostly to Eastern people. The remainder will be gone by spring.

We plant and develop for five years, guaranteeing to turn over to you a full set, perfectly conditioned commercial orchard. After the expiration of the five years we will continue the care of your orchard for you, if desired, for actual cost, plus 10 per cent.

Planting and care is under supervision of the

Churchill-Matthews Company

Spalding Building, Portland, Oregon
The largest and most experienced planters in the Pacific Northwest

We will be glad to meet personally, or to hear by mail, from anyone considering the purchase of an apple orchard or apple land. On account of the bigness of the project, everything is done on a wholesale basis and prices for our tracts are proportionately lower. Reasonable terms. All our purchasers are high class people. No others wanted.

Write for booklet, or call on

DUFUR ORCHARD COMPANY

Suite 510 Spalding Bldg., Portland
Oregon

Suite 2013 Fisher Bldg., Chicago, Illinois

STANDARD PRUNE

is the BEST PRUNE for growing, drying,
shipping and for quality

The Burbank Cherry

brings the highest prices ever received
for cherries

Abundance Cherry

bears enormous crops of big fruit

Leader and National Peaches

are the best early canning and drying peaches

New Shipping Plums A New Canning Pear

and other profitable trees

A postal card now will bring you a new
ILLUSTRATED CATALOG

LUTHER BURBANK, Santa Rosa, California

Apple Grafts Made to Your Order

Any Style or Length to Suit Purchaser
Over Forty Years' Experience

Apple Seedlings

American or French Grown
Straight or Branched Roots
Well Matured, Good Grades
Carefully Handled
Large General Stock

Write for Prices

The Shenandoah Nurseries

D. S. LAKE, Proprietor

Shenandoah, Iowa

THE TROUTMAN ORCHARD HEATERS



Size No. 1

Built on scientific principles and guaranteed to do the work, simply, economically and efficiently.

"The Heater that Made All Others Jealous"

MANUFACTURED IN FOUR SIZES

With the Troutman Heaters the grower can supply himself with small heaters or large heaters, galvanized heaters or plain black iron heaters, orchard or ground crop heaters, just as the local conditions or personal preference requires. The Troutman "Ground Crop" Heater is the only device specially made for this purpose.

Perfect regulation of heat may be had by using the "Ground Crop" Heater.

Time is flying. Place your orders now and be assured of prompt delivery.

The Round Crest Orchard Heater Co.
CANON CITY, COLORADO

An Unqualified Success

EVERY PURCHASER SATISFIED

Tremonton, Utah, December 15, 1911.
Schellenger Fruit Grading Machine Company
Salt Lake City, Utah

Gentlemen: In reply to your favor of the 12th inst. asking my opinion of your machine, I wish to say that in all my experience I have never seen its equal. It simplifies tier packing to such a degree that the mere novice becomes expert in a few hours.

The small fruit grower with his family can put up the same pack as the large grower with his expert packers at one-half the cost. It has supplied a long-felt want. I have packed over 8,000 boxes this season with this machine and except for a few minor parts the machine is as good as new. Wishing you the success you deserve, I am,

Yours respectfully,
(Signed) R. M. MINTER.

Our two 1912 machines have hourly grading capacities of 9,000 and 12,000 apples respectively. Both machines will also be built with our ADJUSTABLE WIPER, which is the acme of simplicity and efficiency.

Schellenger Fruit Grading Machine Co.
(INCORPORATED)

633-635 South Fourth West Street

SALT LAKE CITY, UTAH

References { First, Our Customers
 { Second, Our Bank

Grafted Walnut Trees

We do not grow regular nursery stock, but make a specialty of first-class grafted Walnut Trees. While we are growing and grafting our own trees for our 250-acre tract, we decided to grow some trees for sale.

In doing so we believe we are offering the very best trees that can be bought at any price. Vrooman Franquettes grafted on Royal Hybrid and California Black roots.

Our supply has never been equal to the demand, so if you want to be sure and have your order filled, order early.

Ferd Groner

Rose Mound Farm

HILLSBORO, OREGON

IDEAL NURSERY STOCK

We have all of the Standard Varieties for the Northwest and
Invite Inspection of what we have to offer.

Our scions are selected with care from Hood River orchards. Our stock is grown in Hood River
Reasonable Prices and Special Inducements to Large Planters.

We also have a very fine block of Clark Seedling Strawberry Plants to offer.
Also small fruits for the home garden.

IF INTERESTED WRITE FOR PRICES AND CATALOGUE TO

IDEAL FRUIT AND NURSERY CO., Hood River, Oregon

Co-Operation in Handling and Marketing of Fruit

By G. Harold Powell, Pomologist, United States Bureau of Plant Industry

(Continued from last issue)

THERE is a growing practice in the co-operative associations to pool and sell the fruit as a common commodity under the brands of the association rather than to sell the fruit of each grower separately. The pool is an arrangement by which the similar grades of fruit of all the growers are united and sold together. At the end of a pool, which may vary from a daily pool in the summer fruit business to a monthly or semi-monthly pool in the citrus fruit business or a season pool in the apple industry, the grower receives his pro rata of the proceeds, based on the number of pounds or packages of each grade that he has contributed. In theory the grower has the privilege of contributing to each pool his pro rata of the fruit of the association as a whole, the manager of the association usually apportioning to the growers their quota in accordance with their respective acreage. The pooling arrangement greatly simplifies the practical business methods of an association. The successful working of the pooling system depends on having the handling, grading and packing of the fruit under the direction and control of the association. It may, but does not often succeed where these operations are in the hands of the grower. It further depends on having a large proportion of the fruit of the association of uniform grade. There is considerable variation in the average quality of different lots of fruit in the same grade, even under the most rigid system of grading. The fancy grade of one grower may average better than that of another, though the fruit of both is entitled to be graded fancy under the established rules of the association. No grower is willing to admit that he does not raise the best fruit in his community, and where it happens that his fruit falls below the average and he is paid for a larger proportion of the lower grades than his neighbor he may become dissatisfied, when he will either drift along and finally leave the association or will adopt better cultural methods. In some communities

there is a friendly rivalry among the association members in securing the largest proportion of the higher grades of fruit. The grade of fruit grown under similar conditions of soil and location depends largely on the cultural skill of the grower, and the publicity that the association affords regarding the results of grading the fruit of different growers is a strong factor in stimulating better cultural methods in a community as a whole. On the other hand, the pooling system may not encourage the unusually skillful grower to develop fruit of the highest average grade. If he stands alone as a skillful grower he will not get the full advantage of his extra fine fruit in the pool, as the practical effect of the pool is to lower the average price of extra fine fruit and to raise the price of fruit that can barely enter a grade. An association ought, therefore, to be composed of members located similarly as to soil and other physical conditions, and having similar cultural skill and similar acreage. Unless these fundamental conditions are carefully guarded the pooling system may tend to lower the average grade of the fruit of a commodity because the grower, realizing that the identity of his fruit is lost in the pool, may grow careless in his cultural practices and trust to the better fruit of his more careful neighbors to raise the average net returns of the grades in which his fruit is pooled.

In theory a large association can handle a business more economically than a small one. It is not usually practicable, in the orange business for example, to organize an association and build a packing house unless there are at least one hundred and fifty cars of fruit to ship. The largest associations do not often ship more than seven hundred and fifty cars, and only a few of these large associations are highly successful, as they are likely to become unwieldy and difficult to hold together. There is a wide difference in the character of the fruit grown on different soils at different altitudes, with other dissimilar physical conditions. The variation shown in the

texture of the skin, in its color and clearness, in the flavor of the fruit, and in those qualities which give it style and attractiveness. There is no system of grading by which the fruit grown under different conditions can be made uniform and similar. An association should, therefore, include not only those growers who are similarly skillful, but also those whose fruit nat-

Hood River Grown Nursery Stock for Season 1911-12

Standard Varieties.
Prices Right and Stock First Class

C. D. THOMPSON, Hood River, Oregon



Read what Hood River says

Hood River, Oregon, Nov. 27, 1909.
This is to certify that I have used Cooper's Tree Spray Fluids, VI, for killing San Jose scale and found it very effectual.
G. R. Castner, County Fruit Inspector.

APTERITE
THE SOIL FUMIGANT
DESTROYS INSECTS IN THE GROUND

REDUCES LOSSES SAVES PROFITS
IT WILL PAY YOU TO INVESTIGATE
Write for 1910 booklet (32 pages)
Testimony from fruit growers everywhere

Agent:
C. G. ROBERTS
247 Ash Street Portland, Oregon
Sole Manufacturers:
William Cooper & Nephews
CHICAGO, ILLINOIS

Don't Overlook the Importance of the Insecticide You Use

If your selection is right, your spraying will get results—it will pay. Start right. Select a brand you can depend upon—one that quickly kills chewing insects, such as the curculio, codling moth, borers, beetles, root-worms, canker-worms, potato bugs, etc.

SPRAYS THAT PAYS KEY BRAND ARSENATE OF LEAD

is so convenient, so effective, that once you use it, you will continue

Always uniform; mixes easily; remains in suspension; acts quickly; sticks like paint to plants; does not injure foliage or fruit. Paste form in any amount from 1-pound can to 600-pound barrel; Powder form from 1-pound can to 100-pound keg. Always shipped in hardwood or steel containers. Absolutely superior to any other Arsenate of Lead and costs less. Accept no substitute. Write us for circulars and prices.

High Quality—Low Cost

Agents and wholesale distributors wanted.

INTERSTATE CHEMICAL CO. 14 Bayview Avenue, Jersey City, N. J.

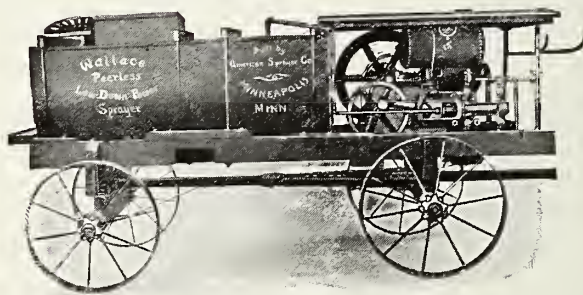
urally shows similar characteristics. In a community in which the fruit is somewhat variable it is a wiser policy to organize several associations, each with its brands of fruit, than to attempt to market all of the fruit under the same brand through one organization. These organizations may act independently in the purchase of supplies and in the marketing of the fruit, or they may federate and form an agency to act for them in the distribution and marketing of the fruit, in the purchase of supplies and in promoting the co-operative movement in other ways. It is only under this method of organization that the co-operative association can reach its highest development as a business organization and have its greatest effect in the development of better methods of fruit growing and in real development.

The citrus fruit industry in California which has developed commercially since 1873, when the Washington naval orange, originally grown in Brazil, was sent to Riverside by the United States Department of Agriculture, and represents an investment of \$150,000,000 to \$175,000,000. The annual shipments of oranges and lemons have reached the enormous total of 40,000 to 50,000 carloads, with a value in California estimated to vary from \$20,000,000 to \$30,000,000. Between 125,000 and 150,000 acres have been planted to citrus fruits and from 100,000 to 150,000 people depend on the industry for a livelihood. The industry is localized largely in Southern California, though it is extending rapidly in the interior valleys to the north. No other horticultural industry in the United States of equal extent is so compactly located. None presents more difficult problems or requires a more skillful distribution and marketing of the crop. Oranges and lemons are distributed from California practically every day in the year for distances of thousands of miles to all of the important cities and towns in the United States and Canada, and great quantities are exported to other countries. When the industry was small no complicated problems of distribution or marketing faced the grower. The fruit was sold for cash to buyers on the ground or to brokers

who represented distant commission houses or other interests, or it may have been sent direct to a commission firm in some far-away city. As the industry grew larger and there were several thousand carloads of fruit to sell, the grower began to realize that the systems of selling the fruit already in operation were inadequate to bring to him the proportion of the returns which his capital was earning and to which he considered himself entitled. Under the system then in operation there were frequent gluts in a few of the markets, and apparently no effort among the buyers to equalize the distribution of the fruit geographically or throughout the year. The buyers were said sometimes to have fixed the maximum price which would be paid

the grower and to apportion the citrus fruit area into districts so as to reduce competition among themselves. The result was disastrous to the producer, and became so serious in the early nineties as to threaten to wipe out the capital invested in the industry. About this time the growers began to organize small associations for the purpose of preparing the fruit for shipment, and in order that it might be assembled in quantity and sold for cash or shipped as a unit. Mr. T. H. B. Chamblin of Riverside was the pioneer in organizing the citrus fruit growers in Southern California. The Pechappa Fruit Association was the first one formed, about 1888. A number of these growers' associations were soon formed, and in 1893 a plan was out-

WALLACE Peerless Power Sprayer



PROVEN BEST BY EXPERT TEST

In design, construction, and economy of operation, the PEERLESS spraying outfit is without a peer among power sprayers.

Equipped with our patent pressure regulator, insuring steadiness of pressure, and our new design rotary agitator, insuring adequate agitation of spraying mixtures.

Write for Descriptive Catalogue

AMERICAN SPRAYER COMPANY
MINNEAPOLIS, MINNESOTA

Where Apples Thrive and Pay



Lands in the Southeast, costing from \$15 to \$50 an acre, net profits on apples ranging from \$100 to \$500 an acre.

Abundant rainfall and special soils give color and flavor unequalled by fruit grown in any other climate. One Southern tree last year yielded \$124 worth of apples; another tree \$57.

Peaches, pears, plums, berries and pecan nuts yield prolifically. Excellent transportation to profitable markets.

Write for full particulars to
M. V. RICHARDS, Land & Industrial Agt, Southern Ry., Room 13
1320 Penn. Ave., Washington, D.C.

only such fruit as was sold before picking, and the formation of an executive committee made up of representatives from the district exchanges to market the fruit. Out of this federation grew the Southern California Fruit Exchange in 1895, and later, in 1905, the California Fruit Growers' Exchange, which now handles about sixty per cent of the citrus fruits grown in California. There are many other associations of growers not connected with the exchange which are organized on the same general principles, and these associations, together with the exchange and a few large growers who market their own fruit, handle about eighty-five per cent of the citrus fruit crop. In order that the principles which underlie the largest co-operative marketing organization in the United States may be understood a brief outline of the exchange system follows:

The California Fruit Growers' Exchange represents about six thousand growers who have organized themselves into one hundred or more local associations. The association usually owns its own packing house where the fruit of the members is assembled, pooled and prepared for market under brands adopted for the different grades by the association. The association usually picks the fruit for the members. The associations in the different regions combine into one or more

HEADQUARTERS FOR CENTURY SPRAY PUMPS

Hose, Nozzles,

First-Class
Plumbing Supplies

C. F. SUMNER

Successor to Norton & Smith

HOOD RIVER, OREGON

district exchanges which represent the associations in the business operations common to each, and which sell the fruit in co-operation with the California Fruit Growers' Exchange through the district or local agents of the latter, or at auction, receiving the proceeds therefor through the California Fruit Growers' Exchange, an incorporated agency formed by a representative of each of the sixteen district exchanges, which acts as the selling agent for these district exchanges. The California Fruit Growers' Exchange takes the fruit of the district exchanges after it is packed, and with their advice places it in the different mar-

lined by Mr. Chamblin, and finally adopted in principle, which federated a number of the associations and provided for the preparation of the fruit for market by the local associations, and for the organization of district exchanges to be made up of the local associations, which were to receive orders for the fruit and apportion them among the associations, it being the intent at that time to ship

IT WOULD STUMP YOU

TO FIND A GRUBBER
EQUAL
TO **SWENSON'S**
MALLEABLE GRUBBER
AND STUMP PULLER

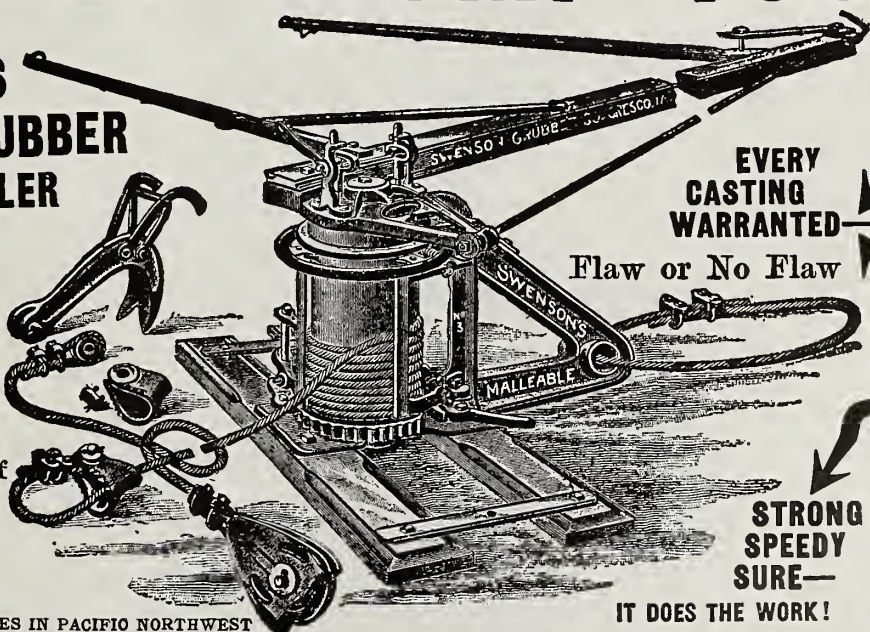
It saves Time.
It saves Man-Labor.
It will make you Money.
It will convert a useless piece of stump-ridden land into a profitable and productive one, without the tedious, back-aching labor of the old processes.

No Chance for Disappointment
— With a Swenson

FOR SALE BY OVER 200 AGENCIES IN PACIFIC NORTHWEST
CATALOG GIVES COMPLETE DESCRIPTION OF MACHINE

R. M. WADE & CO.

OLD ESTABLISHED IMPLEMENTS, VEHICLES UP-TO-DATE
822 HAWTHORNE AVE. PORTLAND, OREGON



EVERY
CASTING
WARRANTED—

Flaw or No Flaw

STRONG
SPEEDY
SURE—

IT DOES THE WORK!

Our endorsements will tell you a frank story of what has been done.
Write for them and FREE CATALOG. Use postal or coupon.

R. M. WADE & CO., Portland: Please send me endorsements
of the Famous Swenson Grubber and Catalog No. G 23

Name _____

Address _____

kets, sells it through its own exclusive agents to the trade or by auction, collects the proceeds and transmits them to the district exchanges, which in turn

pay the growers through the local associations. The central exchange, the district exchange and the association all transact the business for the grower at actual cost. The central exchange, through its agents, is in daily touch with the markets of America, thereby enabling it to distribute its fruit intelligently. The local exchanges and the associations receive a daily bulletin from the central exchange which outlines the condition of the all the markets the preceding day, states the selling price of all the exchange cars and gives the growers such information as will help them to pack and distribute their fruit to the best advantage.

The limits of this article are too restricted to permit more than a brief outline of the battle that the citrus fruit growers of California had to wage for fifteen years before the co-operative principle was on a firm foundation. At first the growers were inexperienced in meeting the attacks of those who opposed co-operation among the producers. Powerful financial interests of various kinds were arrayed against them and were organized to oppose them. Vicious attacks were made on the integrity of the officers. The results obtained by the associations were belittled, the growers' association contract was assailed in the courts and the methods of marketing the fruit were attacked. The most determined efforts were made to show that the growers' organizations were illegally formed. Finally the growers combined with the buyers at one time to market the entire crop, but this incongruous combination of producers and dealers was dissolved at the end of a year and a half. The history of the citrus industry in California is largely a record of the progress in the co-operative handling and distribution of the crop by the producer, and of his determination to receive an equitable share of the value of the labor expended in its production. The battle has been won; the co-operative principle is firmly fixed. It is the balance wheel that gives the stability to the industry and to the relations that exist between it and the agencies with which it transacts business. Fewer serious efforts are made now to break down the co-operative principle among the growers. New schemes of fruit marketing are proposed from time to time, the organizations are frequently attacked in the courts under one guise or another, and other insidious movements are started, all having in view the possible splitting open of the co-operative organizations and a return to the methods of marketing which would destroy the systematic distribu-

HURST SPRAYERS
On Free Trial NO MONEY IN ADVANCE. No bank deposit. Lowest prices. We pay freight and guarantee Sprayers five years.




The Hurst Potato and Orchard Sprayer
 doubles your crop. IT SPRAYS ANYTHING—trees, potatoes, vineyards, truck, etc. High pressure. Easy to operate. Cheap in price, light, strong, and durable. BRASS valves, plunger, strainer, etc. **HURST HORSE-POWER SPRAYER** for orchards, vineyards, potatoes, etc. "No tree too high, no field too big for this kind of sprayer." All HURST sprayers sold on same liberal No-money-in-advance plan. Write to-day for our FREE Spraying Guide, Catalogue and SPECIAL FREE OFFER to FIRST BUYER in each locality.
 H. L. Hurst Mfg. Co.
 822 North St., Canton, O.

tion and marketing now in operation and reinstate the chaotic speculative methods that were formerly in vogue. The co-operative movement in the citrus industry is the result of a slow, painful evolution, and the growers do

JOHNSON'S
Got Another Big Book For You Famous Old Trusty
 Johnson is satisfied with a profit of only 70 cents on his incubator because over 100,000 are demanded every year. His new big book for 1912 tells how he has started five times as many successful chicken raisers as anybody else. Over 200 pages and hundreds of new photographs showing actual experiences with

Old Trusty
 Comes All Ready to Hatch With
 On 40, 60 or 90 Days' Trial
 10-Year Guarantee
 Under \$10 Now
 Johnson Pays Freight E. of Rockies



Let the simple, plain poultry sermons in Johnson's book make more money for you whether you buy of him or not. But why pay two prices. You'll find the real facts about incubator values and prices in this book. Get it first and then decide. Write a postal with your name and address to


M. M. JOHNSON
 Incubator Man
 Clay Center, - Neb.
 The Place Where Most Incubators Come From.
 The Largest Incubator Factory in the World.

JOHNSON says to tell you that 325,000 satisfied customers prove the superiority of "OLD TRUSTY" Incubators.
 —Made like a watch, self-regulated to a quarter of a degree.
 —All told in Johnson's Big Book.
 —Send your name today.

WHOLE ROOT TREES
 Are the only kind to set. Now is the time to make arrangements for your next fall's requirements. We have a large, full line, and ask that you correspond with us.

CARLTON NURSERY CO.
 CARLTON, OREGON

HENS LAY AND PAY BY THE PHILO SYSTEM
FREE Booklet by E. W. Philo, entitled "A Little Poultry and a Living." Or New 96-page book, "Making Poultry Pay," 10c. Both books and the new enlarged edition of the Philo System text-book, \$1.00, or all three books with our monthly magazine, Poultry Review, one year, \$1.50.
 E. R. PHILO, 17 North Ave., Elmira, N. Y.



POOR ORCHARDS MADE GOOD

Six years ago one-half the trees in the orchard of the Fairview Orchard Company, Kearneysville, W. Va., were tagged by the Inspector, who reported it the worst scale-infected orchard he ever saw. After four years' use of "Scalecide" exclusively as a Winter wash, the same orchard is pronounced one of the cleanest in the State, and produced in 1910 over 11,000 barrels of apples, which sold for over \$29,000. If the continued use of "Scalecide" brings an orchard that is half dead to life, is it reasonable to expect injury to a good orchard? "Scalecide" shows greater fungicidal properties than any other Winter wash. "Scalecide" has no substitute. A postal request to Dept. D will bring you by return mail, free, our book, "Modern Methods of Harvesting, Grading and Packing Apples," and new booklet, "SCALECIDE, the Tree-Saver." If your dealer cannot supply you with "SCALECIDE" we will deliver it to any R. R. Station in the U. S. east of the Mississippi and north of the Ohio Rivers on receipt of the price: 50-gal. bbls., \$25.00; 30-gal. bbls., \$16.00; 10-gal. cans, \$6.75; 5-gal. cans, \$3.75. Address, B. G. PRATT COMPANY, 50 Church Street, New York City.

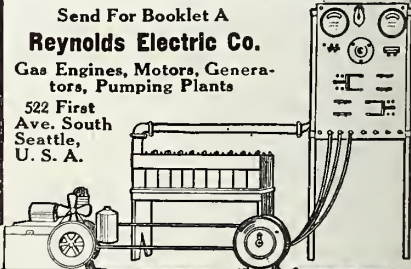
AN ELECTRIC LIGHT PLANT
 For Your Country Home

Perfect Light and Reliable Service is Given by Our
COMPLETE ELECTRIC LIGHT OUTFITS
 8, 15 and 30 Lamps. Combination Dynamo-Storage Battery Type for the electric lighting of ranches, country homes, stables and factories.

Make Your Own Electricity
 Pure White 16-Candle-Power Light
 With this system you generate electric current by the means of a small gasoline engine driving a dynamo or generator at any convenient time. The current is run into a storage battery so you can have light anytime by turning on a switch. Charging of the storage battery is done once or twice a week, or whenever the engine is being run for other work.

No skilled electrician needed to install or run it. Automatic switchboard. Guaranteed. Inexpensive—first cost as well as upkeep. Very simple, perfectly safe, takes up very little room. Investigate this system.

Send For Booklet A
Reynolds Electric Co.
 Gas Engines, Motors, Generators, Pumping Plants
 522 First Ave. South
 Seattle, U. S. A.



Spray Your Trees Before Spring Plowing

and free them from San Jose and other scale and eggs of destructive insects. Spray thoroughly, before foliage appears, with

ELECTRO Lime-Sulphur Solution

(CONCENTRATED)

the most dependable and successful insecticide for winter use and the coming summer spray for fungous troubles. It is a clear, cherry-colored liquid, free from sediment, and guaranteed to contain the maximum percentage of soluble sulphur—the active insecticide.

Send for our FREE "Spraying Simplified" 68-page Book

It tells just when and how to spray to control insects and fungi. A valuable booklet every farmer needs and can have for the asking. Write today

THE CHAS. H. LILLY CO.
PORTLAND—SEATTLE



not appear to be deceived by these efforts, no matter how ingeniously and artfully they are conceived.

The co-operative associations sell the fruit in a variety of ways, the method of sale depending on the character and condition of the industry and the practices that have grown up around it. A large proportion of the deciduous summer fruit is sold f.o.b. cars at the point of production, subject to inspection on arrival in market, or for cash f.o.b. cars, or at auction. Some is consigned to commission merchants. From twenty-five to thirty per cent of the citrus fruits of California are sold at public auction in the Eastern and Central Western markets, and a large proportion of the Western deciduous fruits is sold in this manner. Among the apple associations it is a common practice to send to the trade in advance of the harvest a catalogue of the probable number of boxes of the different varieties and sizes of the higher grades of fruit that the association has for sale, and finally to sell the fruit to the highest f.o.b. bidder. The lower grades are consigned to commission firms, are sold for cash or are marketed in other ways. Few of the organizations except those that transact a large business, like the citrus fruit growers of Florida and California, the peach shippers of Georgia and the deciduous fruit shippers of California, have attempted to regulate the distribution of their products throughout the country, nor have any serious attempts been made to carry the distribution beyond the wholesale dealer, the broker or the auction companies. The co-operative method has brought about large economies in the purchase of supplies, in the cost of preparing the fruit for shipment and in the charges for distribution and sale. It has improved the methods of fruit packing and grading enormously. It has sometimes doubled the net returns to the individual grower for his product. The difference in the price that the association receives for the fruit and that which the consumer pays is

often one hundred per cent or more higher than the original selling price, and this contracts consumption. As long as the country is prosperous and

the present method of distribution and sale does not cause a disastrous oversupply in the principal markets, the growers will be satisfied to continue the methods now in operation. But as the fruit business increases it will be necessary for the growers' associations to develop methods for increasing consumption. This will be accomplished by a more general distribution of their products by the development of their associations into marketing organizations, by equalizing the distribution of the fruit over a longer period through a greater use of cold storage warehouses, by stimulating a greater fruit consumption through systematic advertising and by placing the fruit in the consumers' hands at a cost nearer that which the producer himself receives. As the American fruit business increases the grower may be expected to bring about as great an improvement in the methods of distributing and selling his products to the consumer as he has already accomplished in the handling, grading, packing and preparation of the fruit for market.

LIGHT UP!

You can transform any kerosene (coal oil) lamp or lantern into dazzling brilliancy with our wonderful **Bright Light Burner**. 50 candle power invisible and **unbreakable Steel Mantle**. Brighter than electricity, better than gas or gasoline, and **perfectly safe**. No generating—simply light like any kerosene lamp. Nothing to get out of order. Positively will not smoke or flicker.

AGENTS WANTED EVERYWHERE. Sells like wildfire. An opportunity of a life time, work all or spare time. Experience unnecessary. Make big money—be independent. Write today. Act quick—territory going fast. Complete sample, postpaid, 30c, 4 for \$1.00. Money back if not satisfactory.

BRIGHT LIGHT CO., Dept. 10 Grand Rapids, Mich.





RHODES DOUBLE CUT PRUNING SHEAR

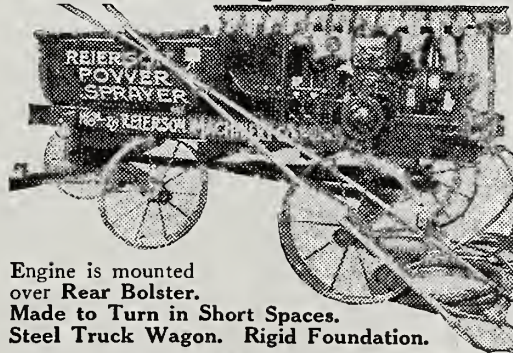
Pat'd June 2, 1903

RHODES

Dept. W RHODES MFG. CO., GRAND RAPIDS, MICH.

THE only pruner made that cuts from both sides of the limb and does not bruise the bark. Made in all styles and sizes. We pay Express charges on all orders. Write for circular and prices.

The Reierson Sprayer SAVES Time, Temper, Trouble and TREES



Engine is mounted over Rear Bolster. Made to Turn in Short Spaces. Steel Truck Wagon. Rigid Foundation.

REIERSON MACHINERY Co.,

Won the blue ribbon, highest award, over all competitors at the Salem State Fair in 1911. Equipped with 2½ H. P. 4-cycle Waterloo Boy Gas Engine. Special latest triplex spray pump. Easy get-at-able to all parts.

Lightest, Most Compact

Guaranteed to Be the Best

Built throughout of **Special Machinery** adapted for spray pumps. Will stand up perfectly under 250 pounds steady pressure. For small orchards we recommend our "Pippin" Duplex Power Sprayer—guaranteed to maintain a 225 pound pressure—at \$150.00. Write for catalog S 4

182-4-6 Morrison Street PORTLAND, OREGON

Beware of "Gasoline Doping"

It is a favorite trick of the professional "gyps" who infest the great horse markets—also the "ginger trick" and the "artificial tail" frame-up. These smooth dodges and all the other rascalities of these brazen scamps are laid bare in

"Horse Secrets"

by Dr. A. S. Alexander, famous veterinarian. The only complete book of horse-trading swindles ever published as far as we know. Farm Journal has distributed seven editions of this book—75,000 copies—in the past two years. We want every farmer to have one for his protection against roguery and for the valuable information this book also contains about the feeding and conditioning of stock and the cure of diseases and bad habits.

The warning advice contained in this book and in the pages of Farm Journal have probably saved "Our Folks" \$100,000 in the past year. Subscribers

constantly write to tell us of the cash value—dollars and cents—they have received from

FARM JOURNAL

This wise little paper will be of real money - saving and money-making value to you. No other farm paper is so broad in its scope—so intensely practical—so interesting in its presentation of facts—so helpful and entertaining in its columns devoted to the home—so strict in its demands that all its advertisers shall be absolutely reliable.

You need it for yourself and your family—and you can have

Farm Journal every month for four years and Horse Secrets at once, postpaid, for only \$1.00.

Send for them at once, and if, on receipt of the book, you don't believe that in it alone you have more than your money's worth, say so and we'll stop the paper at once.

If you order promptly, we will send, absolutely free, "Poor Richard Revived"—our splendid new Almanac for 1912.

FARM JOURNAL, 263 N. Clifton St., Philadelphia

Why Trees Fail to Grow

IT is noteworthy, and at the same time a regrettable fact, that a very large percentage of the trees planted each year in different parts of the country fail to grow. That this loss is larger than necessary is certain, and the causes for it are well worth looking into. Generally the blame is placed on the nurseryman and the quality of the trees. In some cases the blame is rightly placed, but in most instances it lies elsewhere.

In taking up the question, we may

look for the cause in a number of different directions. Trees are subjected to more or less hardship between the time they are standing in the nursery rows and the time they are again set in the ground. Tracing the history of the tree through the several steps in its digging and transplanting, we find that it may have been injured or broken in digging. After removal from the ground it may have received more drying wind and hot sun than was good for it. The tree may have been packed too wet or too dry, or the materials used may have decomposed and given off heat to the injury of the tree. The transportation company, heedless of the nature of their cargo, may have placed it against hot pipes, near a smoke-stack or too near a stove. It may have been delayed in transit, though when there is danger of this the nurseryman should see to it that the trees are packed to stand delays if they are likely to be encountered.

The purchaser may neglect them on arrival; he, too, may leave the trees exposed to the elements, and in planting may have unduly exposed sun and wind.

But by far the greatest cause of loss lies in the work of planting. We must be brief, but may mention the following: When the nurseryman dug the tree he left about three-quarters of its roots in the soil. The tops must, therefore, be cut back hard. The tree should not be set in soil that is too wet or too dry. If dry water should be used in planting, a bucketful or more per tree when the hole is three-quarters of the way filled up. Last and most important of all, the earth should be packed tight around the roots by hand. Tight packing is the key to successful planting.—Exchange.

STANDARD \$4⁰⁰ Spray Pump

SPRAYS the tallest fruit tree from the ground. Does the work in half the time. Sprays whitewash and cattle "dip." Used with bucket, barrel or knapsack. Always ready. Made of brass. Nothing to wear out or make trouble.

Warranted for Five Years

Write for special offer or send \$4.00. Expressage prepaid. Money refunded if not satisfactory.

The Standard Stamping Co.

2042 Main Street MARYSVILLE, OHIO



IF YOU WANT TO KNOW ABOUT

OREGON

SUBSCRIBE FOR

THE CHAMBER OF COMMERCE BULLETIN

The largest commercial magazine in the

West

Devoted to upbuilding Oregon and

the Pacific Northwest

SUBSCRIBE NOW, \$1.50 PER YEAR

ADDRESS

THE CHAMBER OF COMMERCE BULLETIN

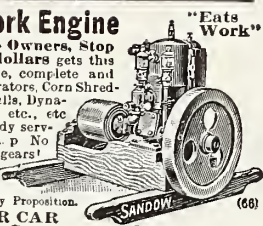
DAVID N. MOESSOHN, Publisher

Suite 716 Chamber of Commerce Building
PORTLAND, OREGON

Let SANDOW Run It!

Wonderful Work Engine

Farmers and Shop Owners, Stop sweating! A few dollars gets this grand little work engine, complete and ready to run Cream Separators, Corn Shreders, Grist Mills, Feed Mills, Dynamos, Printing Presses, etc., etc. Gives a lifetime of steady service! All Sizes: 2 to 20 h. p. No cranking! No cams! No gears! Only 3 moving parts. Finest construction. Thousands in use. Guaranteed 5 years. Write for special Introductory Proposition. **DETROIT MOTOR CAR SUPPLY CO., 238 Canton Ave., Detroit, Mich.**



Rid Your Land of Gophers

RATS, MOLES, SQUIRRELS. A 10-year old boy can do it with this "CINCH" TRAP

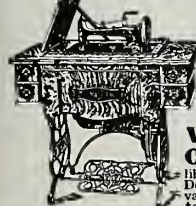


Users kill hundreds in one season with one trap.

No gun, no poison, no bait. Absolutely safe. Made entirely of steel. Guaranteed. Your money back if it's not the best trap you ever saw or heard of. Send \$1.50 for trial trap. AGENTS WANTED.

EUREKA SALES CO., Postoffice Box No. 24
Portland, Oregon

The Genuine DOMESTIC Now \$2 A MONTH



You can place the latest model, genuine Domestic, the recognized queen of all sewing machines, in your home, use it continually while paying \$2 a month, and enjoy a very special price direct to you or from our nearest agency. A magnificent machine—a stupendous offer.

We Will Take Your Old Machine if you wish and make a liberal allowance on a splendid new Domestic. And you can still take advantage of the special price and easy terms.

DOMESTIC

The perfect sewing machine that has always led all other makes and is today better than ever. Two machines in one—lock stitch and chain stitch. Straight drop-head, high arm, ball bearing. A complete set of attachments—every one practical, etc., made for every-day use. The Domestic is a revelation of modern sewing machine progress. Find out about it. **SEND FOR BOOK, FREE, The Truth About Sewing Machines.** telling you how you can have the finest sewing machine made at a Special Low Price and at ONLY \$2 a month. Learn why we sell direct where we have no agent and give you a 25 YEAR GUARANTEE. Get the facts before you buy any machine. This Free Literature will save you money. Send for it NOW. Domestic Sewing Machine Co., 48 Jackson Blvd., Dept. 214 Chicago.

J. M. SCHMELTZER, Secretary

HOOD RIVER ABSTRACT COMPANY

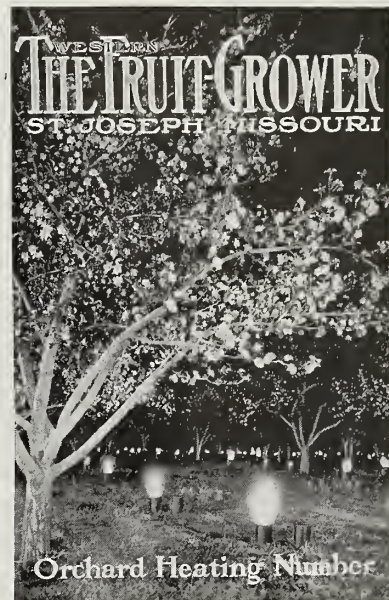
Hood River, Oregon

ABSTRACTS INSURANCE
CONVEYANCING

CLUB ANNOUNCEMENT



"Better Fruit" per year . . \$1.00
The Fruit Grower 1.00—total, \$2.00



Will send them Both
for, per year \$1.50

NORTHWEST GROWERS' UNIONS AND ASSOCIATIONS

WE publish free in this column the name of any fruit growers' organization. Secretaries are requested to furnish particulars for publication.

Oregon

Eugene Fruit Growers' Association, Eugene; Ashland Fruit and Produce Association, Ashland; Hood River Fruit Growers' Union, Hood River; Hood River Apple Growers' Union, Hood River; Grand Ronde Valley Fruit Growers' Union, La Grande; Milton Fruit Growers' Union, Milton; Douglas County Fruit Growers' Association, Roseburg; Willamette Valley Prune Association, Salem; Mosier Fruit Growers' Association, Mosier; The Dalles Fruit Growers' Union, The Dalles; Salem Fruit Union, Salem; Albany Fruit Growers' Union, Albany; Coos Bay Fruit Growers' Association, Marshfield; Estacada Fruit Growers' Association, Estacada; Umpqua Valley Fruit Growers' Association, Roseburg; Hyland Fruit Growers of Yamhill County, Sheridan; Newburg Apple Growers' Association, Newburg; Dufur Valley Fruit Growers' Union, Dufur; McMinnville Fruit Growers' Association, McMinnville; Coquille Valley Fruit Growers' Union, Myrtle Point; Stanfield Fruit Growers' Association, Stanfield; Oregon City Fruit and Produce Association, Oregon City; Lincoln County Fruit Growers' Union, Toledo; Rogue River Fruit and Produce Association, Medford; Mount Hood Fruit Growers' Association, Sandy; Northeast Gaston Farmers' Association, Forest Grove; Dallas Fruit Growers' Association, Dallas; Northwest Fruit Exchange, Portland; Springbrook Fruit Growers' Union, Springbrook; Cove Fruit Growers' Association, Cove; Santiam Fruit Growers' Association, Lebanon; Washington County Fruit Growers' Association, Hillsboro; Benton County Fruit Growers' Association, Corvallis; Sutherlin Fruit Growers' Association, Sutherlin; Brownsville Fruit and Produce Association, Brownsville.

Washington

Kennewick Fruit Growers' Association, Kennewick; Wenatchee Fruit Growers' Union, Wenatchee; Puyallup and Sumner Fruit Growers' Association, Puyallup; Vashon Island Fruit Growers' Association, Vashon; Mt. Vernon Fruit Growers' Association, Mt. Vernon; White Salmon Fruit Growers' Union, White Salmon; Thurston County Fruit Growers' Union, Tumwater; Bay Island Fruit Growers' Association, Tacoma; Yakima Valley Fruit and Produce Growers' Association, Granger; Buckley Fruit Growers' Association, Buckley; Lewis River Fruit Growers' Union, Woodland; Yakima County Horticultural Union, North Yakima; White River Valley Fruit and Berry Growers' Association, Kent; Lake Chelan Fruit Growers' Association, Chelan; Zillah Fruit Growers' Association, Toppenish; Kiona

Fruit Growers' Union, Kiona; Mason County Fruit Growers' Association, Shelton; Clarkston Fruit Growers' Association, Clarkston; Walla Walla Fruit and Vegetable Union, Walla Walla; The Ridgefield Fruit Growers' Association, Ridgefield; Felida Prune Growers' Association, Vancouver; Grandview Fruit Growers' Association, Grandview; Yakima Valley Fruit Growers' Association, North Yakima; Southwest Washington Fruit Growers' Association, Chehalis; The Touchet Valley Fruit and Produce Union, Dayton; Lewis County Fruit Growers' Association, Centralia; The Green Bluffs Fruit Growers' Association, Mead; Garfield Fruit Growers' Union, Garfield; Goldendale Fruit and Produce Association, Goldendale; Spokane Inland Fruit Growers' Association, Kelso; Elma Fruit and Produce Association, Elma; Granger Fruit Growers' Association, Granger; Cashmere Fruit Growers' Union, Cashmere; Stevens County Fruit Growers' Union, Myers Falls; Dryden Fruit Growers' Union, Dryden; White Salmon Valley Apple Growers' Union, Underwood.

Idaho

Southern Idaho Fruit Shippers' Association, Boise; New Plymouth Fruit Growers' Association, New Plymouth; Payette Valley Apple Growers' Union, Payette; Parma-Roswell Fruit Growers' Association, Parma; Weiser Fruit and Produce Growers' Association, Weiser; Council Valley Fruit Growers' Association, Council; Nampa Fruit Growers' Association, Nampa; Lewiston Orchard Producers' Association, Lewiston; Boise Valley Fruit Growers' Association, Boise; Caldwell Fruit Growers' Association, Caldwell; Emmett Fruit Growers' Association, Emmett; Twin Falls Fruit Growers' Association, Twin Falls; Weiser River Fruit Growers' Association, Weiser; Fruit Growers' Association, Moscow.

Colorado

San Juan Fruit and Produce Growers' Association, Durango; Fremont County Fruit Growers' Association, Canon City; Rocky Ford Melon Growers' Association, Rocky Ford; Plateau and Debeque Fruit, Honey and Produce Association, Debeque; The Producers' Association, Debeque; Surface Creek Fruit Growers' Association, Austin; Longmont Produce Exchange, Longmont; Manzanola Fruit Association, Manzanola; Delta County Fruit Growers' Association, Delta; Boulder County Fruit Growers' Association, Boulder; Fort Collins Beet Growers' Association, Fort Collins; La Junta Melon and Produce Company, La Junta; Rifle Fruit and Produce Association, Rifle; North Fork Fruit Growers' Association, Paonia; Fruita Fruit and Produce Association, Fruita; Grand Junction Fruit Growers' Association, Clifton; Palisade, Grand Junction; Palisade Fruit Growers' Association, Palisade; Peach Growers' Association, Palisade; Colorado Fruit and Commercial Company, Grand Junction; Montrose Fruit and Produce Association, Montrose; Hotchkiss

Fruit Growers' Association, Hotchkiss; Paonia Fruit Exchange, Paonia; Colorado Fruit Growers' Association, Delta; Crawford Fruit Growers' Association, Crawford; Amity Cantaloupe Growers' Association, Amity; Pent County Melon Growers' Association, Las Animas; Capitol Hill Melon Growers' Association, Rocky Ford; Denver Fruit and Vegetable Association, Denver; Fair Mount Melon Growers' Association, Swink; Fowler Melon Growers' Association, Fowler; Granada Melon Growers' Association, Granada; Grand Valley Fruit and Produce Association, Grand Junction; Independent Fruit Growers' Association, Grand Junction; Kouns Party Cantaloupe Growers' Association, Rocky Ford; Lamar Melon Growers' Association, Lamar; Loveland Fruit Growers' Association, Loveland; Manzanola Orchard Association, Manzanola; Newdale Melon Growers' Association, Swink; Roaring Fork Potato Growers' Association, Carbonade; Woods Melon Growers' Association, Las Animas.

Montana

Bitter Root Fruit Growers' Association, Hamilton; Missoula Fruit and Produce Association, Missoula.

Utah

Farmers and Fruit Growers' Forwarding Association, Centerville; Ogden Fruit Growers' Association, Ogden; Brigham City Fruit Growers' Association, Brigham City; Utah County Fruit & Produce Association, Provo; Willard Fruit Growers' Association, Willard; Excelsior Fruit & Produce Association, Clearfield (Post-office Layton R. F. D.); Centerville Fruit Growers' Association, Centerville; Bear River Valley Fruit Growers' Association, Bear River City; Springville Fruit Growers' Association, Springville; Cache Valley Fruit Growers' Association, Wellsville; Green River Fruit Growers' Association, Green River; Farmers and Fruit Growers' Forwarding Association, Centerville.

New Mexico

San Juan Fruit and Produce Association, Farmington.

British Columbia

British Columbia Fruit Growers' Association, Victoria; Victoria Fruit Growers' Exchange, Victoria; Hammond Fruit Association, Ltd., Hammond; Hatzie Fruit Growers' Association, Hatzie; Western Fruit Growers' Association, Mission; Mission Fruit Growers' Association, Mission; Salmon Arm Farmers' Exchange, Salmon Arm; Armstrong Fruit Growers' Association, Armstrong; Okanagan Fruit Union, Limited, Vernon; Kelowna Farmers' Exchange, Limited, Kelowna; Summerland Fruit Growers' Association, Summerland; Kootenay Fruit Growers' Union, Limited, Nelson; Grand Forks Fruit Growers' Association, Grand Forks; Boswell-Kootenay Lake Union, Boswell; Queens Bay Fruit Growers' Association, Queens Bay; Kaslo Horticultural Association, Kaslo; Creston Fruit and Produce Exchange, Creston.

Sweet Peas

Send for Our
1912 Novelty Sweet Pea Collection No. 1

Sweet Peas are our Specialty. We were among the first to grow the seed in California and we are now the largest growers in the world. We are offering this season some of the newest and best Spencer novelties ever introduced.

Margaret Madison—beautiful light azure blue, per sealed packet 25c.
Mary Garden—the beautiful new double or duplex type, light buff pink, sealed packet 25c.
Duplex Crimson King—the giant flowered double or duplex crimson—scarlet, sealed packet 25c.
Rainbow Spencer—the new flaked crimson rose on ivory, sealed packet 25c.
Irish Belle or "Dream"—lovely rich lilac, flushed with pink, sealed packet 25c.

One packet of each of the above novelties known as

Novelty Collection No. 1
\$1.00

Our complete Sweet Pea Booklet entitled "Sweet Pea Culture"—mailed on request.

C. C. MORSE & CO.

125 MARKET STREET SAN FRANCISCO

That New Apple Orchard

By Sylvanus Van Aken, Port Ewen, New York

GOING to set out a new apple orchard next spring? Then begin to plan early if you want to do it right. Personally I prefer the "diamond" system of planting. You can get as many trees on six acres as you can on seven when set on the square. One must allow twelve feet for all fences in order to leave room for working. The matter of laying out the orchard calls for considerable thought on the part of the beginner. Having had the opportunity of setting out orchards here in Hudson Valley, New York, I may be able to give a few pointers.

I believe in setting the standards forty feet apart for our conditions, and all fillers twenty feet, whether apples or peaches.

The first thing to do in starting an orchard on the "diamond" plan is to set stakes for the first row of standard trees. To get this I start on one side of the field where there is a straight fence, or where one can get a straight row of trees. The straight line can be readily laid out by setting poles fifty or sixty feet apart and stretching a line between them. Make sure the line is straight by sighting with the eye,

forty-foot chain and set a small stake every forty feet where a tree is to stand every forty feet where the line is to stand along the stretched line. After this the large poles and line may be moved on ahead. When the first row has been all staked out for trees take two strings of picture wire forty feet long, put a hook on one end of each and fasten the other ends in a ring large enough to drive a small stake through. One man tends the hooks, which are placed, to start, on the first two stakes of the first standard row. When the cords or wires are now stretched the center of the ring will lie where the first tree will come in the second row of standard trees. Put a stake there, pass first hook over to the third stake, and you locate the second tree in your second standard row. Keep this up all over the field, making sure that your lines measure just forty feet when you start each new row. If the ground is not too hard or stony shingles cut in narrow strips will do for stakes. In this way two men can measure off and stake out a large field in a day. The standard trees should all be staked for and set first. Then go over the field the same way and stake for the fillers, using the standard trees for the hooks on the line. Three men can be used to a good advantage at this time. By using this method carefully there will be no need of sighting along the rows of trees while planting.

Taking it for granted that you are going to put out quite a large commercial orchard and do not want to wait ten or twelve years for the fruit in paying quantities, I suggest that, if your conditions are right, you plant nothing but red apples of the following varieties: For the standards,

KITSELMAN FENCE

FOR THE ORCHARD

Get It From the Factory Direct

You want three things in a wire fence: 1, a fence that will give years of satisfactory service; 2, the style and height best suited to your purpose; 3, and at a reasonable price. Our prices

11½ CTS. A ROD UP

Save the DEALERS PROFIT and get a better fence. Kitzelman Fence Lasts for Years. 100 styles and heights. Catalogue FREE. **KITSELMAN BROS. Box 67 Muncie, Ind.**

SWIFT'S ARSENATE OF LEAD HIGHEST QUALITY Insect Pest Destroyer!

Easy to mix—sure to kill. Death to all leaf-eating insects. Save your trees, fruits and vegetables. Put up in paste or dry form.
(Conforms to the National Insecticide Act of 1910.)

Be Sure and Ask for SWIFT'S

and thus always secure GUARANTEED HIGHEST QUALITY.

FOR SALE BY LEADING DEALERS EVERYWHERE

MERRIMAC CHEMICAL CO.

Send for Circular.

45 Broad Street, Boston, Mass.

STRAWBERRIES

Plant by the dozen or by the million. 120 acres planted in 123 varieties. All the standards and the most promising of the new ones. Largest grower in America. Every plant true to name. Also Raspberry, Blackberry, Gooseberry and Currant Plants, Grape Vines, California Privet and other Shrubbery. Cultural directions with each shipment. Beautiful Catalogue FREE. Send a postal today. My personal guarantee back of every sale.

W. F. ALLEN
21 Market Street, Salisbury, Md.

Send For This Seed Annual-Free

Lilly's seeds are tested for purity and germination. No seeds are packed by us unless these two qualities show the very highest standard. Our fully equipped laboratory under the direction of a scientist and expert seed tester removes all guess work. When buying Lilly's seeds, you buy increased crops.

Send for catalog.
The Chas. H. Lilly Co., Seattle

Dealers Sell Lilly's Seeds

Delicious and Jonathan; for the fillers, Wealthy, Mackintosh and Black Ben. These latter varieties grow rapidly and bear in a few years if properly pruned and headed. When they get in the way of the standard trees, which will be in twelve or fifteen years, they must be cut out at once. It is sometimes practical to cut out only two-thirds of the fillers and let the other third stand a few years longer. The trees that are left standing will be the ones in the filler row standing an equal distance

SPRAY THE NEW WAY To Increase Your Profits Most

Let me send you my Free Book telling about the improved methods of spraying and the simple, economical sprayers.

Every farmer should have this book. If you are not spraying or are using a slow, troublesome, wasteful sprayer you are losing money fast.



Brown's Auto Sprays

are quickest and best workers; most economical. Field crops, fruit trees, vegetables increase in yield. Disease and blight banished. Experiment stations and 300,000 farmers endorse Brown's Auto Spray, 40 sizes. Hand or power. Auto Spray No. 1 is the most efficient and powerful hand power spray made. Fitted with patent Auto Pop



Nozzle. Does most work at lowest cost. Brown's Non-Clog Atomizer Nozzle for larger sprayers. The greatest time and money saving invention in years—positively will not clog—adjustable from fine mist like spray to a powerful

stream. Complete Spraying Guide Sent Free.
The E. C. Brown Co., 96 Jay St., Rochester, N. Y.

from four standard trees. Your choice of variety, of course, depends on your locality. In general, plant what the region is already most noted for.

The digging of holes and planting should be done by hand. Make a circle around the stake with point of shovel the size of hole should be, which will be about two feet across. By using this method the right location for the hole will not be lost in digging after you have removed the stake. The hole should be about eighteen inches deep, which allows for throwing a couple of shovelfuls of top soil in bottom of hole for the tree to stand upon. Where only a few trees are to be planted in sod, or where the ground has not been sub-soiled, it has been my experience that the holes ought to be at least four feet wide. In planting the trees be careful about pruning the roots too much. Severely bruised roots are usually the only ones that

should be cut off. The stock of a tree should be made to stand in center of the hole. Cover the roots with good top soil. A little shaking of the tree up and down should be given so as to make the loose soil settle about the small rootlets upon which we depend for first growth. The hole can then be filled up and well packed with any soil. If the ground is quite poor a handful of bone meal put around each tree and about two inches under ground will prove a good starter. Having started the tree, you now must direct its growth. The first limb need not be over two feet from the ground, according to the best practice of this region. The limbs should be kept just out of the way of working under, so as to economize the work and expense of spraying and gathering the fruit. I like a five-branched tree, three branches on the sides and two on the top. The top ones should branch apart V-shape. But no two limbs should be directly opposite one another on trunk of tree. They should be four or five inches apart in height on the trunk. The reasons for such an arrangement of branches is that the tree when old

130 EGG Mankato Incubator \$7.25

This reliable, high-grade and safe hatcher, now better than ever and down to bed-rock price. Is built of best material, has three thicknesses of walls, top and bottom, all covered with asbestos and heavy galvanized iron. Has heavy copper hot-water tank and boiler, easy to heat, metal safety lamp, requiring little oil, self-regulator, tested thermometer, etc. Also high nursery and strong metal legs. So simple a child can operate successfully. None better at any price. Direct from factory to user—no middle profits—under binding guarantee and long-term trial. The result of 17 years' experience building incubators and raising poultry. Write at once for big free catalogue and poultry book. Brooders from \$2.50 up.



260 EGG
ONLY \$10.

Mankato Incubator Co., Box 887, Mankato, Minn.

HOW TO GET BETTER LIGHT From KEROSENE (Coal Oil)

Recent test by Prof. Rogers, Lewis Institute, Chicago, and Prof. McKergow, McGill University Montreal, on leading oil-burning lamps show the Aladdin Mantle Lamp is the most economical and gives over twice as much light as the Krayo and other lamps tested. It is odorless, safe, clean, noiseless. Better light than gas or electric. Every Aladdin Lamp fully guaranteed and protected by patents in nearly every country on earth. Our burners fit your old lamps. To introduce the Aladdin, we will give

ONE LAMP or BURNER FREE

In each neighborhood. Send postal with name and address, ask for cat- AGENTS. Ball sold over 1000 on money back guarantee; not one returned. Bruner sold \$800 in 15 days. Ask for liberal agency proposition. Sample lamp furnished.

MANTLE LAMP COMPANY, 43 Aladdin Building, Portland, Ore.

There's BIG Money in Wood Sawing

Owners of the Reiersen Wood Saw make \$10 to \$20 per day right along

Our Own
Manufacture
Built to
Meet
Pacific
Coast
Needs



Will saw a cord
of wood in seven
minutes

Sold
direct to you
without any
middlemen's profits

A Practical, Durable, Efficient Machine, priced within your reach. Equipped with 6 h. p., frost proof, water cooled, Waterloo Boy Gas Engine. Selby anti-friction roller steel saw table. Wide tired steel or wood wheels for rocky roads and stone pavements. Heavy, machine turned fly wheels for arbor mounted so the engine fly wheels straddle the frame, thereby overcoming top heaviness.

Built to make short turns in alleys, etc.

Positively the best wood saw made—stands every test. A great money maker. Write today for full description and prices. Ask for catalog W 6

Reiersen Machinery Co. 182-6 Morrison Street
Portland, Oregon

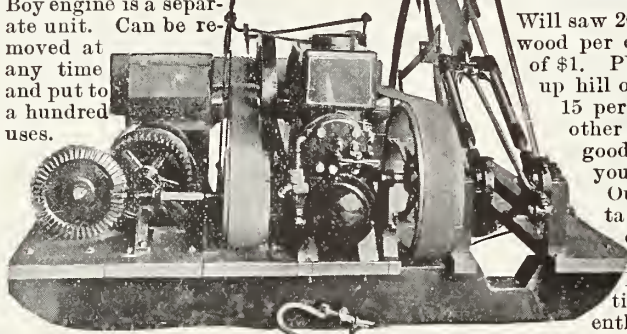
\$20 per day Earning Capacity

Will Pay for Itself in Less Than Three Weeks. Operated by One Man.

Neat, Compact, Simple, Strong, Light, Durable

The 4 h. p. Waterloo Boy engine is a separate unit. Can be removed at any time and put to a hundred uses.

"King of the Woods" Drag Saw



Will saw 20 to 40 cords of wood per day at a cost of \$1. PULLS ITSELF up hill or down. Costs 15 per cent less than other makes not as good. There's more you ought to know. Our catalog contains complete description and prices: sent FREE with testimonials from enthusiastic users.

ASK FOR CATALOG C 5

Reierson Machinery Co. PORTLAND, OREGON
SOLE MANUFACTURERS

is much less liable to injury from heavy snows or winds if the branches leave the main stem at different heights than when they branch off at same height so that a double strain comes at one point. The branches should be cut off just above the bud, with the bud on the outside. All inside buds that will grow a limb directly toward center of tree can be brushed off and save the sap that would go into them for the rest of the tree and save on the next year's pruning. The matter of how long to have the branches is largely a matter of common sense, but the tree when finished should be pyramidal in form, and kept so from year to year the first few years. It is desirable to have the tree grow spreading in order to let in sunlight and air to the center. When pruning the roots of a tree one should use a sharp knife and cut the roots off in a slanting direc-

tion on the under side; this will cause the wound to heal over readily by throwing out plenty of fibrous roots from the end.

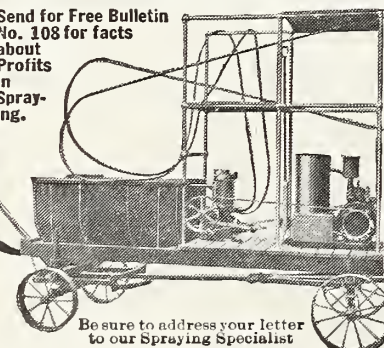
The apple will grow on a great variety of soils, but it very seldom thrives on very dry sand or soil saturated with moisture. Its favorable soil is a strong loam of a limestone nature. It is generally agreed that a deep, strong, gravelly or clayey loam, or a strong, sandy loam on a gravelly sub-soil, produces the greatest crops and the highest flavored fruit, as well as the utmost longevity of the trees. Too damp soil may be rendered fit for the apple by thorough drainage, and that which is too dry by deep sub-soil plowing or trenching where the soil is of a heavy texture. Many orchards are very productive on quite stony soils. Apple orchards as a rule do best on northern or northwestern slopes.

DETROIT SPRAYING OUTFITS!

Are the best that money can buy. Sold at lower prices than are asked for inferior outfits.

Power and thoroughness are absolutely essential to success in spraying, and these two features are embodied in the **Detroit Spraying Outfit** to a much greater extent than in any other. Designed by a practical and successful orchardist. Operated by a 4-horsepower **Amazing Detroit Kerosene Engine**. Exceptionally high platform enables you to get right to the top of the tallest trees and four full horsepower enables you to

Send for Free Bulletin No. 108 for facts about Profits in Spraying.



Be sure to address your letter to our Spraying Specialist

Drive the Mixture Right Into the Bark

Embodies every convenience. Pump started and stopped from upper platform. Built on a platform of standard width so that it can be placed on any farm wagon. Also can be used as a portable pumping outfit or fire engine. Engine can be quickly removed and used to furnish power for any other purpose. November to May is the time to spray, and after doing your own trees you and the boys can go out and clean up the cost of your outfit in a week by spraying for your neighbors. Write at once for Bulletin No. 108, giving startling facts in regard to the profits to be derived from spraying, together with full and complete instructions, formula, spraying calendar, etc.

DETROIT ENGINE WORKS

Spraying Dept., Bulletin No. 108, Detroit, Mich., U. S. A.

TREES

"TRUE-TO-NAME"

Grafted & Seedling Walnuts, Grapevines

We have the largest and finest assortment of all the finest French and English walnuts ever grown. Our grape vines are fine strong plants, well rooted, and include the commercial table and shipping grapes, as well as raisin and wine.

In addition to this we have the most complete line of fruit trees, ornamental stock and roses on the Pacific Coast. We make a study of what is suitable to plant in the interior valleys, the coast counties or the foothill regions. We have been growing nursery stock in California for over 28 years, and you will find that it pays to write us what your requirements are and secure our suggestions, as well as prices.

There is a greater call for fruit trees of all descriptions this season than has been experienced in years—therefore it is urgent that orders be placed

NOW

CATALOGUE SENT FREE

Write for our illustrated price catalogue, which contains brief descriptions of all our stock, including many new varieties, Burbank's latest creations, etc.

"California Horticulture" describes over 2,000 varieties of trees and plants, contains many valuable suggestions about planting, pruning, etc., profusely illustrated, containing 120 pages, will be mailed on receipt of 25c in stamps.

PAID UP CAPITAL \$200,000.00

FANCHER CREEK NURSERIES
GEO. C. ROEDING, PRES. AND MGR.
Box 10 Fresno, California

RICHLAND NURSERY CO.

ROOT INSURANCE

Is the basis upon which we sell to our customers. Our trees and plants are selected strains with the perfect roots and tops so difficult to procure.

WRITE FOR CATALOG
46 pages of instruction and information

Every tree we ship to you is guaranteed by us to be true to name and specially adapted to the Pacific Northwest. We sell every variety of Fruit and Ornamental Trees, Berry Plants, Vines, Shrubs, Perennials, Roses, etc. For prompt shipment order from

RICHLAND NURSERY CO., INC.

RICHLAND, WASH

Use Labels! It Pays

**A GOOD COMBINATION
AND A WINNER**

**1ST GOOD FRUIT
2ND GOOD PACKING
3RD GOOD LABELS**

THE LABEL HELPS.

Schmidt Lithograph Co.

E. SHELLEY MORGAN, MANAGER.

408 WELLS FARGO BLDG.

PORTLAND, OREGON.

SAMPLES AND PRICES ON APPLICATION

Faculty Stronger Than Ever
More Progressive Than Ever

Results Better Than Ever
Attendance Larger Than Ever

ATTEND THE BEST

Behnke-Walker Business College

PORTLAND, OREGON

BETTER FRUIT

Has no peer in the Northwest

And so we have established

THE FRUIT JOURNAL

along similar lines in behalf of the great irrigated fruit districts of the Rocky Mountain region, a companion paper to this, your favorite fruit magazine.

We have made it up-to-date, clean, high class editorially, mechanically and pictorially.

The subscription rate is \$1.00 per year. It is worth it.

**THE INTERMOUNTAIN
FRUIT JOURNAL**

Grand Junction, Colorado



HERE'S a simple, strong, low-priced light-draft riding harrow which covers more surface with less draft than any other cultivator made. It works right up to the trees and under lowest branches without harming fruit or leaves in the least.

Forkner

Light Draft Harrows

for Orchards and Vineyards

make it possible to thoroughly cultivate 20 to 30 acres per day with two horses. They lift and turn the soil and leave it in slight waves, thus exposing more surface to the chemical action of the sun and rain. They make a perfect dust-mulch, which conserves maximum amount of moisture.

Write for Free Trial Offer—and Booklet.

We will ship to responsible parties on 30 days' riskless free trial. Free booklet, "Modern Orchard Tillage," tells the whole story.

LIGHT DRAFT HARROW CO.
901 E. Nevada St., Marshalltown, Ia.

Orchard Caterpillar Gas Traction Engine



Caterpillar Working in Plowed Ground, Fargo Orchards

Plows Deeper — Plows Cheaper

When Work Stops Expense Stops

Ready for Work when Work is Ready

The Caterpillar Does Not Run on the Ground but

Runs on its OWN STEEL TRACK

Order Caterpillar now for your spring work
For literature write to nearest branch office

The Caterpillar is the only Traction Engine that works successfully on soft, wet or plowed ground.

The Caterpillar will plow, harrow and seed your land in one operation. The Caterpillar will cultivate your summer fallow. The Caterpillar will harvest your grain crop and then haul it to market. It will save you money in doing all your farm work.

GREATEST ECONOMY in space, operation, upkeep, time and labor.

The following are successful and satisfied users of Caterpillars in their orchard work:

Lewiston Land and Water Company, Lewiston, Idaho.

Schmidt Brothers, Creswell, Oregon.

Fargo Orchards Company, Fargo, Marion County, Oregon.

"It is the cheapest piece of machinery we ever bought."

"We have used our Caterpillar for nearly a year in orchard where trees are set twenty feet apart."

"Our Caterpillar is doing work of ten men and thirty horses."

"We have pulled with our 60-h.p. Caterpillar 18 feet of plows for 21 days and nights without 25 minutes' stop, only to put in oil, breaking a heavy sod and soft land."

THE HOLT MANUFACTURING CO., Stockton, California, U.S.A.

Branch Houses { SPOKANE, WASHINGTON; PORTLAND, OREGON; Walla Walla, Washington;
San Francisco, California; Los Angeles, California; Salt Lake City, Utah

Some Talk Dutch, Some Talk German

SOME TALK EITHER

English, Irish, Swede, Danish, Italian,
Japanese or Chinese

We talk business.

We have the trees that please all nationalities.

Why? Because they are grown right. Proper care is given to varieties. They are packed correctly for shipping. They are delivered on time. Our prices are right. Write for catalogue or call our salesman.

IF YOU CAN SELL GOODS WE HAVE
AN OPPORTUNITY FOR YOU

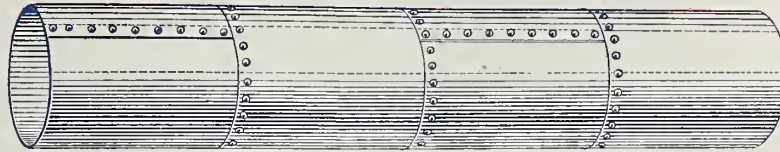
Capital City Nursery Company

Rooms 413-415 U.S. National Bank Building, SALEM, OREGON

COLUMBIA ENGINEERING WORKS

PORTLAND, OREGON

Steel Pipes
Save Water

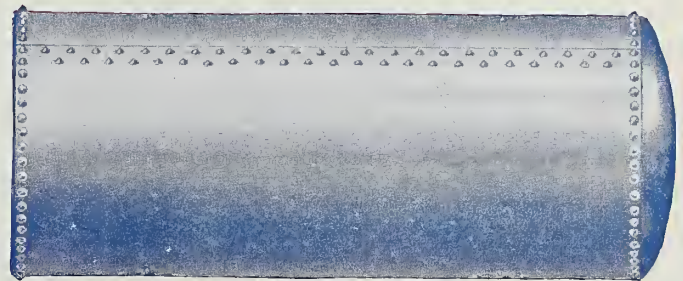


Steel Pipes
Save Labor

You Do Not Have to Wait for Steel Pipes to "Soak Up"
and They Last Indefinitely



Write
for
Catalog
No. 33

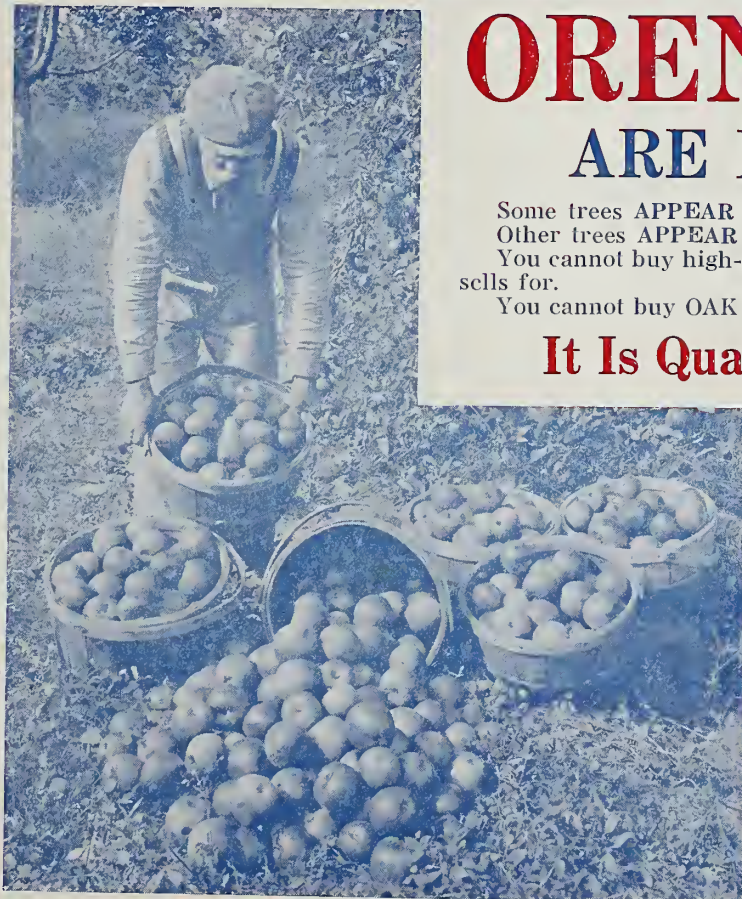


ORENCO TREES ARE REALLY CHEAP

Some trees **APPEAR CHEAP**—but **ARE REALLY EXPENSIVE**.
Other trees **APPEAR EXPENSIVE**—but **ARE REALLY CHEAP**.
You cannot buy high-grade, productive land for the same price as poor land sells for.

You cannot buy OAK lumber for the same price as FIR lumber.

It Is Quality that Counts in Trees



The result of planting Orenco's dependable, profitable trees.
What kind are you going to plant?

WE GROW OUR OWN TREES in our 1,200-acre nursery. Our land was selected—specifically for nursery purposes. It produces the very choicest type of trees possible to obtain anywhere, with stalwart tops, strong fibrous roots—in short, strictly first-class, sound, healthy, fully matured trees. There are none better grown—and they are **REALLY CHEAP**—because they are such as will "MAKE GOOD."

If you need any Y. N. PIPPIN, SPITZENBERG, WINESAP, ROME BEAUTY, McINTOSH RED, JONATHAN or any other commercial or home variety, just drop us a line stating your requirements. We also have some of the best peach trees in EARLY CRAWFORD, ELBERTA, FOSTER, FITZGERALD, GILLINGHAM and other good varieties we have ever grown.

IF YOU WANT PEACH TREES YOU CAN'T GET BETTER. DON'T DELAY ORDERING TOO LONG. WHY NOT NOW? Address

OREGON NURSERY COMPANY, ORENCO, OREGON

Steady, Upright Salesmen Wanted

Fuel Economy in Orchard Heating

WITH

BOLTON Orchard Heaters

MR. GROWER: The Bolton Orchard Heater with **Combustion Regulator** attached is guaranteed to burn more than twice as long on the same amount of oil than will any other device on a like amount of oil.

Bolton Orchard Heater

Size, 1 gallon

Cost, 20c each

Burning time, 8 hours

Look! 1 gallon consumed in

8 hours



Lard Pail

Size, 1 gallon

Cost, 14c each

Burning time, 3 hours

Look! 1 gallon consumed in

3 hours

Now, Mr. Grower, by installing BOLTON ORCHARD HEATERS you save from $1\frac{1}{2}$ gallons to 2 gallons of oil every 8 hours you burn them. Figuring oil at 5 cents per gallon, you save 10 cents on each Bolton Orchard Heater, and by installing lard pails you lose 10 cents on each lard pail every 3 hours. Think it over and listen to us, as we are the ORIGINATORS of Orchard Heaters.

Prices: 1-gallon size, Black Iron, 20c each

1-gallon size, Galvanized, 23c each

2-gallon size, Black Iron, 26c each

2-gallon size, Galvanized, 30c each

We pay the freight

The Frost Prevention Company

Main Office, Bank of Italy Building

SAN FRANCISCO, CALIFORNIA

AGENTS:

California Rex Spray Company, Benicia, California
The Rex Company, Omaha, Nebraska
The Rex Company, Rochester, New York
The Toledo Rex Spray Company, Toledo, Ohio
Yakima Rex Spray Company, North Yakima, Washington
Harding-Shaw Company, 2 South Clark St., Chicago, Illinois
Bolton Orchard Heater Company of Texas, 406 Chronicle Building, Houston, Texas

Robert Beers, R. F. D. No. 46, Roswell, New Mexico
The Frost Prevention Company, 107 S. Broadway, Los Angeles
The Frost Prevention Company, 109 Temple Block, Kansas City, Missouri
G. F. Stanton, Fort Myers, Florida
Producers' Fruit Company, Medford, Oregon
E. M. McKeany, Manager
George H. Parker, Grants Pass, Oregon
Morris B. Carpenter, Phoenix, Arizona